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PB-252 377

Notes On Sedimentation Activities, Calendar Year 1974

Water Resources Council

Prepared For
Environmental Protection Agency

1974

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Notes on

SEDIMENTATION ACTIVITIES

CALENDAR YEAR 1974

Prepared under the Auspices of the
U.S. Water Resources Council,
Sedimentation Committee,
by the
U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Water Planning and Standards

UNITED STATES DEPARTMENT OF AGRICULTURE
DEPARTMENT OF TRANSPORTATION
U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
DEPARTMENT OF DEFENSE
FEDERAL POWER COMMISSION
U.S. DEPARTMENT OF THE INTERIOR

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The material has been organized by major drainage basins in the conterminous United States.

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NOTES ON SEDIMENTATION ACTIVITIES CALENDAR YEAR 1974

PREFACE

The need for disseminating current information on activities in the field of sedimentation was proposed by the Chairman of the Federal Inter-Agency River Basin Committee's Subcommittee on Sedimentation shortly after the subcommittee was formed in May 1946. At the fifth meeting of the subcommittee on September 17, 1946, the members approved this proposal and agreed to the issuance of a quarterly report as one means of effecting better coordination of the work of various Federal agencies in the field of sedimentation.

Quarterly reports were issued during the period of July 1, 1946, through June 30, 1947, when the reporting period was changed to a 6-month period, and semiannual reports were issued through 1953. Starting in 1954 and continuing through the present, these reports have been made annually and cover the activities of the Federal agencies in the field of sedimentation on a calendar year basis.

This report is a digest of information furnished by Federal agencies conducting sedimentation investigations on work in progress or planned, important findings, new methods, new publications, laboratory and other research activities, and other pertinent information. The material has been organized by major drainage regions in the conterminous United States, Alaska, Hawaii, Puerto Rico, and Foreign. Other major headings include Laboratory and Other Research Activities.

An excerpt from the Catalog of Information on Water Data, Index to Water Quality Stations, 1974 edition, compiled by the Geological Survey, Office of Water Data Coordination, is included as Appendix A. This excerpt is a list, as of January 1974, of long-term (3 years or more) water quality sites at which sediment data have been collected.

Appendix B is a listing of agency addresses by departments where information on agency activities can be obtained. Additional information may be obtained from members of the Sedimentation Committee listed on pages v and vi.

Information for "Notes on Sedimentation Activities" for calendar year 1974 was contributed by the representatives of the Federal agencies shown on page iii. The publication was prepared, in accordance with an established format, by the Chairman of the Sedimentation Committee and published by the Environmental Protection Agency.

The Sedimentation Committee will welcome any suggestions for improvement in the report, both in content and in format.

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*Forest Service
*Soil Conservation Service

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DEPARTMENT OF TRANSPORTATION
*Federal Highway Administration

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Map of Water Resources Regions

Calendar year 1974 sedimentation activities for the U.S. are reported for the following water resources regions:

- New England (01)
- Mid Atlantic (02)
- South Atlantic-Gulf (03)
- Great Lakes (04)
- Ohio (05)
- Tennessee (06)
- Upper Mississippi (07)
- Lower Mississippi (08)
- Souris-Red-Rainy (09)
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- Texas-Gulf (12)
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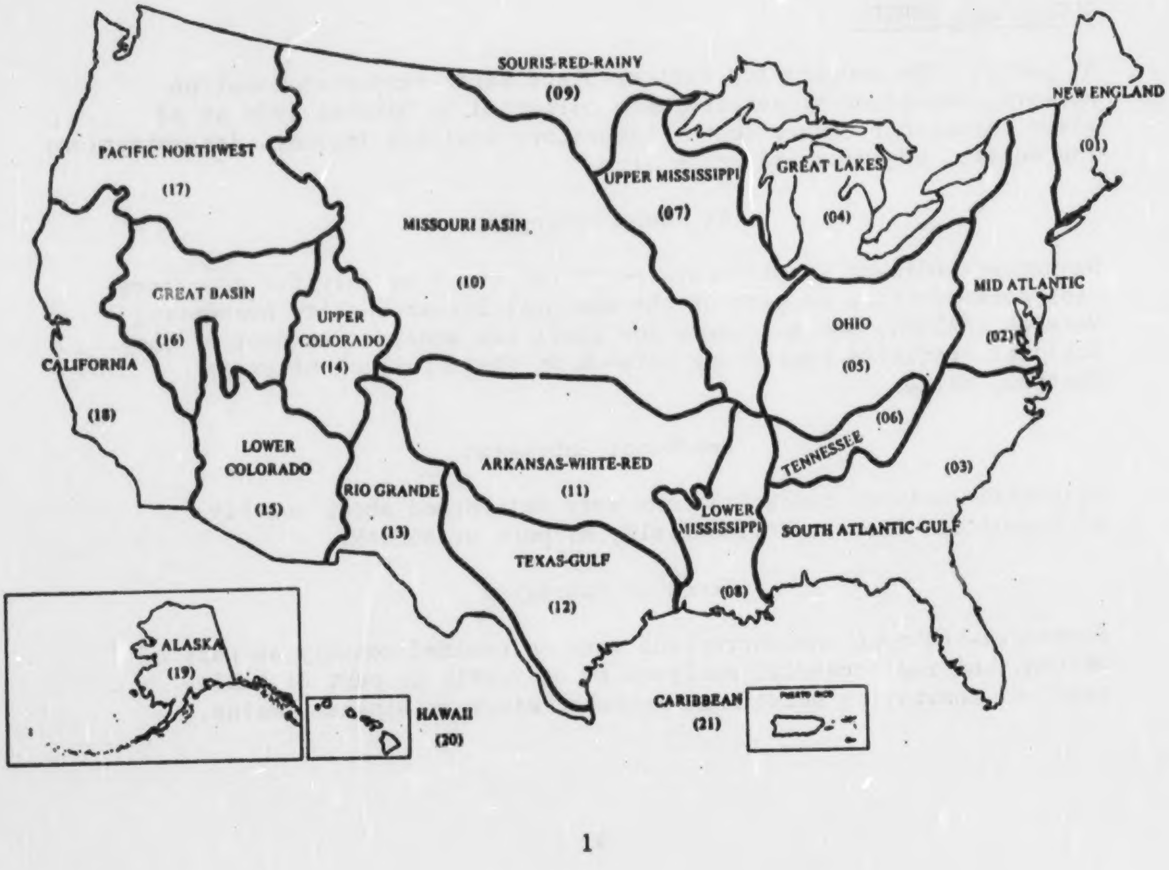
- Upper Colorado (14)
- Lower Coloardo (15)
- Great Basin (16)
- Pacific Northwest (17)
- California (18)
- Alaska (19)
- Hawaii (20)
- Caribbean* (21)

*Includes both Puerto Rico and Virgin Islands.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(08)
SOUTH ATLANTIC-GULF
TEXAS-GULF
(12)
ALASKA
(19)
HAWAII
(20)
CARIBBEAN
(21)
PUERTO RICO

NEW ENGLAND REGION

CORPS OF ENGINEERS

New England Division

Approximately 3,000 cubic yards of sediment were removed from Northfield Brook Lake, Thomaston, Connecticut, to enhance the quality of the lake for recreation purposes. Sedimentation at Northfield Brook Lake was insignificant and did not affect the storage capacity of the reservoir.

Reconnaissance inspections indicate that there are no other accumulations of sediment serious enough to adversely affect the storage capacities of the remaining flood control projects in New England.

FOREST SERVICE

The following National Forests have sedimentation (suspended sediment or turbidity) monitoring programs designed to quantify the effects of road construction, timber harvest, recreational development, or mining activities: Green Mountain (Vermont), and White Mountain (New Hampshire and Maine).

GEOLOGICAL SURVEY

As part of the cooperative Federal-State water resources baseline network, bed-material samples were collected in October 1974 at 42 sites throughout Connecticut. Laboratory analyses included determinations for metals, organics and grain size.

St. John Subregion

Suspended-sediment samples were collected about monthly for concentration determination as part of the National Stream Quality Accounting Network (NASQAN) and quarterly for pesticide analysis as part of the National Pesticide Monitoring Network at the Aroostook River at Caribou, Maine.

Penobscot Subregion

Suspended-sediment concentrations were determined about monthly at Penobscot River at West Enfield, as part of NASQAN.

Kennebec Subregion

Suspended-sediment concentrations were determined monthly as part of NASQAN, and radiochemical analyses twice yearly as part of radiochemical monitoring network at Kennebec River at Bingham, Maine.

Androscoggin Subregion

Suspended-sediment concentrations were determined monthly at Androscoggin River near Auburn, Maine, as part of NASQAN and at Wild River at Gilead, Maine, as part of the hydrologic benchmark network.

Maine Coastal Subregion

Samples for suspended sediment concentration were collected monthly at St. Croix River at Milltown, Maine, as part of NASQAN.

Saco Subregion

Samples for suspended concentration were collected monthly at Saco River at Cornish, Maine, as part of NASQAN.

Merrimack Subregion

Samples for suspended-sediment concentrations were taken periodically at five sites as part of a federally funded network to acquire areal coverage of basic sediment data. Sediment data collection at all sites was discontinued in June, 1974.

Connecticut Subregion

Sediment data were collected monthly at the Connecticut River at Thompsonville, Connecticut, as part of the National Stream Quality Accounting Network.

Massachusetts - Rhode Island Coastal Subregion

Samples for suspended-sediment concentration were collected periodically at Taunton River near Bridgewater, Massachusetts and Wood River near Arcadia, Rhode Island as part of a federally funded basic data network until June 1974 when they were discontinued. Monthly samples for suspended sediment concentration were initiated in October 1974 at Charles River at Charles River Village, Massachusetts as part of NASQAN.

Connecticut Coastal Subregion

Sediment data were collected monthly at the Housatonic River at Stevenson, Connecticut, as part of the National Stream Quality Accounting Network.

SOIL CONSERVATION SERVICE

1. Reservoir Sedimentation Surveys:

Aroostook County, Maine

Reservoir	Date of Survey	Location	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/yr (Ac-Ft/Sq Mi)	Capacity Loss (Pct/yr)
Violette St. Site 2	1974	VanBuren	9.58	1782 (102)*	--	--**	--

*Capacity allocated to sediment storage
**Initial establishment of 12 survey ranges

Windsor County, Vermont

Reservoir	Date of Survey	Location	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/yr (Ac-Ft/Sq Mi)	Capacity Loss (Pct/yr)
Jewell Bk Site 1	10-72	Ludlow	2.09	427.8**	4	--*	--

*Initial survey; reported in activity notes C.Y. 1972
**Value corrected from previous report

MID ATLANTIC REGION

CORPS OF ENGINEERS

North Atlantic Division

New York District

The District conducted sediment samplings and tests at 31 stations in the North Atlantic Region as follows:

Location	Test Date-Calendar Year 1974
Rikers Island	14 June
Red Hook	14 June
Browns Creek, Sayville	14 June
Oceanside Fire Island Point of Woods	14 June
Buttermilk Channel	July to August
Hudson R. Channel (N.J. & N.Y. side)	July to August
Weehawkin Edge Water	July to August
Raritan R.-Main & S. Channels	July to August
Channel-North of Shooters Island	July to August
Cheesequake Creek	July to August
Sandy Hook Bay at Leonardo	July to August
Sandy Hook Bay at Atlantic Highlands	July to August
Catskill Creek	22 August
Glen Cove Creek	29 August
Milton Creek	29 August
Port Chester	29 August
Eastchester Creek	30 August
Browns Creek, Patchogue	6 September
Lake Montauk Harbor	31 October
Jones Inlet	31 October
East Rockaway Inlet	31 October
Gilgo Beach, Fire Island Inlet	31 October
Caven Point	15 November
Elizabeth River	15 November
Gowanus Canal	23 December
Glen Cove Creek	23 December
Milton Creek	23 December
Port Chester	23 December
Eastchester Creek	23 December
New Rochelle	23 December
Eaton's Neck	23 December

The type of information determined for each of the above listed locations was an analysis of each of the following properties of the sediment:

- a. P.H. at 20°c
- b. C.O.D.
- c. Oil & Grease
- d. Mercury
- e. Cadmium
- f. Arsenic
- g. Lead
- h. Copper
- i. Zinc
- j. Chromium
- k. Nickel

The analyses were performed according to "Standard Methods for the Analysis of Water, Sewage and Industrial Waste," American Public Works Association, 13th Edition 1971.

In addition, the grain size, carbon content and percentage of oil and grease were also analyzed.

The chemical analyses of the sediment samples were made to permit an evaluation of their suitability for disposal by sea.

Philadelphia District

The only District sedimentation activity during 1974 was the continued financial support of the U.S.G.S. for the collection of sediment data at:

Delaware River at Dunnfield, New Jersey
Delaware River at Trenton, New Jersey
Schuylkill River at Berne, Pa.
Schuylkill River at Philadelphia, Pa.
Tulpehocken Creek at Blue Marsh Damsite.

Baltimore District

The only data available at this time on accumulated sediment, collected during 1974, are the following records of the amount of material removed during routine maintenance of flood control projects.

Water Resources Region and Project Location	Stream	Sediment Removal	Sediment Removed During 1974 (CU YDS)
North Atlantic Region			
Almond Lake (N.Y.)	Canacadea Creek	Channel Above Recreation Pool	448
Arkport Dam (N.Y.)	Canisteo River	Intake Channel	2,669
	Canisteo River	Paved Spillway Channel	64

Water Resources Region and Project Location	Stream	Sediment Removal	Sediment Removed During 1974 (CU YDS)
Binghamton, N.Y.	Pierce Creek	Above Paved Channel	931
	Pierce Creek	Belden Street Drop Structure	403
Canisteo, N.Y.	Purdy Creek	Check Dam	2,164
	Bennett Creek	Confluence With Purdy Creek	2,160
Corning, N.Y.	Cutler Creek	Channel Above Drop Structure	632
Hornell, N.Y.	Canisteo River	Paved Channel	98
	Crosby Creek	Check Dam and Channel Above	678
	Crosby Creek	Check Dam Bucket	25
Lisle, N.Y.	Drainage Ditch		611
Whitney Point, N.Y.	Tioughnioga River	Channel	541
York, PA	Codorus Creek	Tyler's Run Channel	75

FOREST SERVICE

Jefferson National Forest - Jefferson National Forest, Middle Atlantic Region, 14 points were checked for chemicals on a regular basis. Of these, 9 points were to monitor timber sale activities and lead to corrective action on two occasions. Two points were to monitor trout waters and three were to collect background information.

The Monongahela National Forest in West Virginia has sedimentation (suspended sediment or turbidity) monitoring programs designed to quantify the effects of road construction, timber harvest, recreational development or mining activities.

Richelieu Subregion

Periodic suspended-sediment sampling was begun in September at the NASQAN station Richelieu River (Lake Champlain) at Rouses Point, New York.

Samples for suspended-sediment concentrations were collected periodically at four other sites as part of federally funded basic data network until June 1974 when all stations were discontinued.

Upper Hudson Subregion

Periodic suspended-sediment sampling was continued at the NASQAN station Hudson River at Poughkeepsie, New York, and at the USGS hydrologic benchmark station Esopus Creek at Shandaken, New York.

Periodic suspended-sediment sampling was begun in November at seven stations in the Schoharie Creek basin in cooperation with the Power Authority of the State of New York.

Lower Hudson Subregion

Collection of suspended-sediment samples continued for eight stations in this subregion as part of the continuing basic data collection network for the N.J. District. Sampling was carried out during storm events and baseflow conditions. Sampling at these stations will continue until a sediment-rating curve can be developed for each station. This type of curve will then be applied to a flow-duration curve to compute long-term average sediment yield for each of the following eight sites:

Hackensack River at Rivervale
Passaic River near Millington
Whippany River at Morristown
Pompton River at Pompton Plains
Elizabeth River at Elizabeth
Millstone River at Plainsboro
Royce Brook Tributary at Frankfort
Royce Brook Tributary near Belle Mead

Particle-size analyses were done for both of the Royce Brook Tributary stations.

Special Studies

Winslow Crossing Project, N. J.

The objective of this study is to determine the effect on the hydrologic regime of transforming an essentially rural area to a suburban community. An integral part of the study is the sediment production before, during, and after transformation. Project began July 1971. Change in land use from rural to suburban conditions resulted in sediment yields per square mile about 10 times greater during the construction period. As construction nears completion the sediment yields are decreasing; however, substantial increases in the adsorbed nutrient and pesticide concentration are occurring on the sediments.

Manasquan River Basin Project, N. J.

The objective of this study is to determine the water quality characteristics of the basin. Suspended-sediment sampling began during late 1970 and continued until September 1974. All of the sediment computations are being done with the flow-duration, sediment-rating curve method.

Delaware Subregion

Daily suspended-sediment sampling was continued on the Delaware River at Dunnfield, N. J., in cooperation with the U.S. Army Corps of Engineers. These data provide basic records on sediment discharge in the vicinity of the proposed Tocks Island Reservoir site. Daily sampling continued on the Delaware River at Trenton, N. J. Particle-size analyses were done at both of these sites for peak storm runoff samples.

Daily records of suspended-sediment discharge for the Delaware River at Port Jervis, New York, were continued. Several sets of bed-material, point samples, and samples collected using the Helly-Smith bed-load sampler were obtained for particle size, nutrient, pesticide, and metal analyses. This work is done in cooperation with the Delaware River Basin Commission as part of the study of the proposed Tocks Island Reservoir.

The flow-duration, sediment-rating curve method is used to compute long-term expected sediment yield at three stations in this subregion. Samples are collected over the entire range of streamflow for these stations. Particle-size analyses are made for samples with adequate levels of concentration for peak storm runoff. The three stations are:

Flat Brook near Flatbrookville
Musconetcong River near Bloomsbury
Assunpink Creek at Trenton

McDonalds Branch in Lebanon State Forest is sampled intermittently. Suspended-sediment data collection is carried out at this benchmark station as part of the overall Federal Hydrologic Benchmark Program.

The Winslow Crossing Project involves six sediment sampling stations. Two of these, Fourmile Branch at New Brooklyn and Great Egg Harbor River Tributary at Sicklerville, are sampled on a daily basis to provide a complete record of changes in sediment yield as the hydrologic regime is transformed from that of a rural community to that of a suburban community. Four other stations are sampled during storm events and baseflow conditions. These include:

Great Egg Harbor River near Sicklerville
Great Egg Harbor River Tributary No. 2 at Winslow Crossing
Great Egg Harbor River near Blue Anchor
Great Egg Harbor River at Folsom

The Manasquan River Basin Project is designed to determine the fluvial sediment characteristics of the basin. Five stations were established to sample suspended-sediment over the entire range of streamflow conditions on an intermittent basis. The five stations include:

Manasquan River near Georgia
Debois Creek at Wycoff Mills
Manasquan River at West Farms
Manasquan River at Squankum
Mingamahone Brook at Farmingdale

Particle-size samples were collected at:

Manasquan River at Squankum at peak storm event runoff.

The basic suspended-sediment sampling network established by the New Jersey District USGS is carried out in cooperation with the U.S. Corps of Engineers, N.J. Department of Environmental Protection, and the N.J. Department of Agriculture, Soil Conservation Service. A computer printout is available upon request which lists, for each water year, the suspended-sediment stations established and the type of suspended-sediment data collected for each station. Send request to:

District Chief
U.S. Geological Survey
P.O. Box 1238
Trenton, N.J. 08607

Daily suspended-sediment samples were collected at five other sites in the Delaware River basin. The sites include the Schuylkill River at Berne and at Philadelphia, Brandywine Creek at Chadds Ford, Pa., and at Wilmington, Del., and Tulpehocken Creek at Blue Marsh damsite near Reading, Pa.

Susquehanna Subregion

Suspended-sediment samples were collected at 15 locations in the Susquehanna River basin. Nine of the locations were operated as part of research activities and six as part of the State and Federal sediment network. The nine research stations are equipped with continuous turbidimeters and automatic sediment monitors. Data are collected daily at the remaining six stations.

Determinations of the quantity and size characteristics of suspended-sediments on the Juniata River at Newport, Pa., were continued as a part of the U.S. Geological Survey sediment index station program.

Potomac Subregion

Daily suspended-sediment sampling continued at North Branch Potomac River near Cumberland, Md., and Monocacy River at Reichs Ford Bridge near Frederick, Md., in cooperation with the Maryland Geological Survey. Similar data were collected within the Federal program at Conococheague Creek at Fairview, Md., and Potomac River at Point of Rocks, Md.

A study of streamflow and sedimentation was continued in the Rock Creek and Anacostia River basins near Washington, D.C., in cooperation with the Maryland-National Capital Park and Planning Commission, the Washington Suburban Sanitary Commission, the Montgomery County Department of Environmental Protection, and the Maryland Water Resources Administration. This investigation is designed to determine the effects of erosion-control practices in urban construction areas on sedimentation and streamflow. Streamflow, suspended-sediment discharge, rainfall, and land use have been measured at 3 sites since 1962 and at 6 other sites since 1966. Data collection was discontinued at 7 sites on September 30, 1974. Streamflow and suspended-sediment measurements were continued at North Branch Rock Creek near Norbeck, Md., and Northwest Branch Anacostia River near Colesville, Md. The final project report, "Effects of urbanization and sediment control on streamflow and sedimentation in the Rock Creek and Anacostia River basins, Maryland," is in preparation.

The trap-efficiency study of Bernard Frank Lake near Rockville, Md., continued in cooperation with the U.S. Department of Agriculture, Soil Conservation Service.

Automatic sediment sampling was continued at 6 stations in the Occoquan Watershed. Periodic sampling was started at 13 stations throughout the State of Virginia. Sediment sampling was continued at Stave Run near Reston, Va., Smilax Branch at Reston, Va., and Snakeden Branch at Reston, Va. Automatic samplers at the three Reston sites provide information during high-flow events when major suspended-sediment movement occurs.

Sediment data were collected about monthly at Cacapon River near Great Cacapon, West Virginia, and South Branch Potomac River near Petersburg, West Virginia. These two stations were discontinued July 1, 1974. Sediment data were collected about monthly at Lost River at McCauley near Baker, West Virginia, in cooperation with the Soil Conservation Service, USDA.

Rappahannock Subregion

The daily measurement of sediment continued on the Rappahannock River at Remington, Va., as a part of the Federal index system. Water temperatures and specific conductance were also recorded.

SOIL CONSERVATION SERVICE

1. Studies of sediment damages and determinations of sediment yields were made for work plans in the following watersheds:

   a. Public Law 566

Major Drainage	Watershed	Stream	County	State
Potomac River	Cedar Run	Cedar Run	Fauquier	Virginia
		Owl Run	"	"
		Turkey Run	"	"
		Gupton Run	"	"
		Licking Run	"	"
		Mill Creek	"	"
Chowan River	Great Creek	Great Creek	Brunswick	"
			Lunenburg	"

2. Reservoir Sedimentation Surveys:

Broome County, New York

Reservoir	Date of Survey	Location	Drainage Area (Sq Mi)	Orig Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/yr (Ac-Ft/SqMi)	Capacity Loss (Pct/yr)
Patterson Ck-Site 1	9-74	42°08'Lat 76°01'Long	4.3	891.40	5.9	0.17	.08
L. Choconut Ck-Site 2B	9-74	42°11'Lat 75°58'Long	1.64	272.0	5.9	0.10	.06

Tioga County, Pennsylvania

Reservoir	Date of Survey	Location	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/yr (Ac-Ft/SqMi)	Capacity Loss (Pct/yr)
Marsh Ck PA-600	6-73	41°45'Lat 77°30'Long	3.28	554	5.6	1.80	1.05

Columbia County, Pennsylvania

Reservoir	Date of Survey	Location	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/yr (Ac-Ft/SqMi)	Capacity Loss (Pct/yr)
Briar Ck PA-497	6-73	41°03'Lat 76°17'Long	5.11	1152.5	4.7	0.80	.36

SOUTH ATLANTIC-GULF REGION

CORPS OF ENGINEERS

South Atlantic Division

Jacksonville District

Suspended sediment samples were obtained at two stations on the St. Lucie Canal during the periods of regulatory releases from Lake Okeechobee.

Mobile District

The following is the annual report of sedimentation activities by this office during 1974.

Sedimentation Range Surveys--The installation of the sedimentation monitoring ranges for the Carters Dam Project on the Soosawattee River is completed. Nine permanently monumented ranges were installed upstream from the main dam, five in the reregulation pool and nine downstream from the reregulation dam.

Also, monumenting and surveying nineteen permanent ranges downstream of the Claiborne Lock and Dam was completed.

Suspended Sediment Investigations--Data were obtained from seven suspended sediment stations on a daily basis during the year. Five stations are located on the Tombigbee River: Gainesville, Alabama; Columbus, Aberdeen, Amory and Fulton, Mississippi. The two remaining stations, Claiborne, Alabama, and West Point, Georgia, are located on the Alabama River and Chattahoochee River, respectively. The Jackson, Alabama, station on the Tombigbee River was discontinued.

Sediment Deposition Studies-- Sediment deposition studies were made on the following creeks:

a. Daniels Creek - The purpose of the study was to investigate the continuing siltation of Daniels Creek and its relation to strip mining in the watershed.

b. Tallahala Creek - The study purpose was the determination of any possible future project related channel depositions and the effects the deposits would have on water surface elevations.

c. Luxapalila Creek - The purpose of the study was to determine changes in the sedimentation characteristics of the creek that are due to channel improvement and their possible effects on the Tennessee-Tombigbee Waterway navigation channel.

Savannah District

Monthly fathometer profiles were made to determine the locations of sediment deposits in Savannah Harbor, quarterly or more often in Brunswick Harbor and along the Atlantic Intracoastal Waterway, and semiannually on the Savannah River below Augusta, Georgia.

In order to determine the rate of shoaling and to schedule dredging operations in East River, Brunswick Harbor, hydrographic surveys were made at intervals of about one month, and before and after each maintenance dredging. These surveys were made with fathometer and soundings were taken with an 8-pound disc lead in conjunction with each survey to insure consistent interpretation of the fathograms.

Periodic analyses are made of bottom sediments prior to dredging in cooperation with SAD and WES laboratories to meet EPA criteria. Considerable sediment analyses have been made from 1970 through 1974 in connection with research for disposal of dredged material and its environmental effects (including diked and undiked areas as well as offshore disposal).

A total of four suspended sediment sampling stations were in operation during the year on the Savannah River and the Savannah Harbor.

Wilmington District

Suspended Sediment--Sediment sampling continued on Roanoke River at Randolph, Virginia, and on Dan River in Paces, Virginia. The data are used in connection with operation and maintenance of John H. Kerr reservoir project.

Masonboro Inlet Deposition Basin

a. Purpose. To determine the extent and rate of filling of a deposition basin downdrift of a low weir of "sand spillway" section of a jetty on the northern lip of Masonboro Inlet, North Carolina.

b. Type of Survey. Hydrographic

c. Elements Measured. Depth within basin

d. Survey Scope. Complete hydrographic survey of deposition basin and inlet channel and the extent of accretion updrift of the jetty.

e. In July 1966, the deposition basin was constructed with the removal of 376,300 cubic yards of material by pipeline dredge. Since its construction, several condition surveys of the basin have been made. The following table gives the date of the surveys within the deposition basin and the estimated average depths:

Date of Survey	Type	Estimated Average Depth Ft., m.l.w.
July 1966	Before-Dredging	2
August-July 1966	After-Dredging	15
December 1966	Condition	12
June 1967	Condition	8
January 1968	Condition	9
July 1968	Condition	9
January 1969	Condition	9
September-October 1969	Condition	10
July 1970	Condition	10
February 1971	Condition	12
July-August 1971	Condition	14
October 1971	Condition	12
June 1972	Condition	12
May 1973	Condition	12
October-November 1973	Condition	12
June-July 1974	Condition	20

f. Condition surveys made in December 1966 and June 1967 indicated that the basin was trapping the sand which passed over the "sand spillway.' However, a gradual northward movement of the Masonboro Inlet Channel has occurred since completion of the north jetty. By the time the January 1968 condition survey was made, the channel was passing through the deposition basin. Since then, the basin has not been effective in trapping sand. The condition survey data are used for monitoring the effect of sand movement on the north jetty.

ENVIRONMENTAL PROTECTION AGENCY

Region IV - Atlanta

The cooperative EPA-SCS Watershed Study of two subbasins of the Ogeechee River in south Georgia (begun last April) is the only current project that involves a limited amount of sedimentation work. The water quality data collected in these coastal plain basins (in the Statesboro-Claxton area) includes suspended sediment. A five-year projection will include the cumulative amount of suspended sediment delivered to proposed impoundments. However, other aspects of water quality are primary objectives of the study, and sedimentation is only secondary. No bedload analyses are being made, and the estimates will probably be underestimations of the total sediment delivery.

FOREST SERVICE

Alabama - Forest land in the Alabama River Basin was sampled with approximately 550 plots for erosion and sediment data. Preliminary results indicate that 68 percent of the sediment from forest land is from mechanical site preparation, 22 percent from skid trails, 5 percent from logging, 2 percent from woodland grazing, 2 percent from logging roads, 1 percent from fire and a trace from natural erosion.

Also in Alabama, the Tombigbee River Basin has been sampled with approximately 300 plots which will be analyzed in FY 1976.

Florida - Forest land in the Northeast Gulf River Basin was sampled with approximately 300 plots for erosion. This data will be analyzed in FY 1976.

North Carolina - Forest land in the Tarr-Nuese River Basin has been sampled with 1,200 plots for erosion and sediment data. Nine hundred (900) of these plots were collected by Forest Survey which will give a statistically reliable evaluation of nature and extent of forest land disturbances.

National Forests in Mississippi - Monitored water for turbidity and conductivity from 12 stations draining timber sales areas to assess impact of timber sales in reforestation activities. Data does not yet extend over a long enough period to be conclusive.

National Forests in Alabama - Maintained four water quality stations to determine impact of soil disturbing activities on stream water quality. Three stations monitored Timber Management activities and one station monitored construction of PL-566 flood retarding structure. All activities have not been completed and final results are not available.

National Forests in North Carolina - The Davidson River Barometer Watershed Laboratory continues to analyze suspended sediment samples for the National Forests in North Carolina.

A study of soil loss in conjunction with mechanical site preparation/timber stand improvement work was continued throughout the year. Completion of this study is anticipated in 1975. A technique of tracing sediment movement is being field tested on this site.

A timber sale monitoring program continues on Jutts Creek in Graham County, North Carolina. A study of soil loss in conjunction with prescribed burning site preparation/timber stand improvement work was started in Macon County, North Carolina.

GEOLOGICAL SURVEY

Special Studies

In cooperation with S. C. Department of Health and Environmental Control, a statewide, multi-year project was initiated to identify with aerial photography and document with sampling sources of sediment input to major streams and reservoirs. Also cooperating in the project is NASA, Kennedy Space Center. Using their aerial photography and data analysis equipment, an attempt was made to quantitatively corelate file density measurements with suspended-sediment concentration. The study area for 1974 was a segment of the Broad River in the vicinity of and including Parr Shoals Reservoir. Simultaneously with aerial photography collection, samples for suspended-sediment concentration were collected from 21 sites on one occasion and 10 sites on another.

A five-year study began in late 1969 to evaluate the sediment-transport characteristics of selected streams within a 50-mile radius of Raleigh was completed. Sediment-transport curves and annual suspended-sediment yields were determined for each of the 35 sampling stations in the study, which was conducted in cooperation with the North Carolina Department of Natural and Economic Resources. The following report has been prepared and is currently pending review: Simmons, C. E., Sediment characteristics of streams in the eastern Piedmont and western Coastal Plain region of North Carolina: U.S. Geol. Survey Water Resources Inv., 43 p.

In cooperation with the U.S. Corps of Engineers, sediment studies were conducted on the Tennessee-Tombigbee Waterway project. The waterway will connect the Tennessee River system with the Tombigbee River system providing a waterway from the Tennessee River to the Gulf of Mexico.

Suspended-sediment data were collected for selected storm events on Mackeys Creek near Dennis and Yellow Creek near Doskie. This information was collected in cooperation with the Corps of Engineers in order to estimate the impact of sediment loads on the Tennessee-Tombigbee Waterway. This program started in August 1973 and will end when construction begins at the two sites. These data are presented in the annual publication of Water Resources Data for Mississippi.

Roanoke Subregion

Sediment measurements were continued at Roanoke River at Randolph, Va., and Dan River at Paces, Va. under agreement with the U.S. Corps of Engineers. Frequent measurements were made during flood events and at 7-day intervals for periods of medium-low flow.

Tar-Neuse Subregion

In cooperation with the U.S. Dept. of Agriculture, SCS, a study of sediment was continued in the Creeping Swamp area near Vanceboro, N.C. Pending approval, the swamp and surrounding lowlands will be drained by dredging channels. Sediment samples are collected to define the suspended-sediment concentrations before, during and after channelization.

Pee Dee Subregion

The Federal sediment index station was continued on the Yadkin River at Yadkin College, N.C. The investigation included the determination of daily concentration and suspended-sediment loads during a full range of flows.

Sediment samples were obtained on a monthly basis at Scape Ore Swamp near Bishopville, S.C. Collection of data is part of the federal benchmark program.

Sediment samples were obtained on a monthly basis beginning in October at Lynches River at Effingham, S.C. and Black River at Kingstree, S.C. Collection of data is part of the National Stream-Quality Accounting Network.

Sediment samples were collected on a monthly basis at Lakes Marion-Moultrie Diversion Canal near Pineville, S.C. and Santee River near Pineville, S.C. Collection of data is part of the National Stream-Quality Accounting Network.

Sediment samples were collected on a monthly basis beginning in October at Edisto River near Givhans, S.C. Collection of data is part of the National Stream-Quality Accounting Network.

Sediment samples were collected on a monthly basis beginning October at Coosawhatchie River near Hampton, S.C. Collection of data is part of the National Stream-Quality Accounting Network.

Savannah - Ogeechee Subregion

Sediment samples were collected about monthly at Upper Three Runs near New Ellenton, S.C. Collection of data is part of the federal benchmark program.

Sediment samples were collected on a monthly basis at Savannah River near Clyo, Ga. Collection of data is part of the National Stream-Quality Network.

In cooperation with the Georgia Department of Natural Resources, Earth and Water Division, periodic samples of suspended sediment were collected at Chattooga River near Clayton, Broad River near Bell, and Ogeechee River near Eden, Georgia. Reduction of data was continued for North Newport River at Interstate 95 near Riceboro, Georgia, where bed-profile changes have been monitored in a dredged portion of this tidal stream.

Altamaha - St. Marys Subregion

Monthly measurements of suspended sediment were continued at Falling Creek near Juliette, Georgia as part of the national hydrologic benchmark network. One bed-material sample from this site was analyzed for pesticide content. Periodic suspended sediment data were collected at Alcovy River near Covington, Middle Oconee River near Athens, Altamaha River near Doctortown, and Satilla River at Atkinson, Georgia, in cooperation with the Georgia Department of Natural Resources, Earth and Water Division.

Monthly suspended-sediment samples were collected at St. Marys River near McClenny, Florida, as part of the NASQAN program.

St. Johns Subregion

Monthly suspended-sediment samples were collected at St. Johns River at Palatka, Florida, as part of the NASQAN program.

Southern Florida Subregion

Monthly suspended-sediment samples were collected at the Kissimmee River near Okeechobee, Florida, a part of the NASQAN program.

Tampa Bay Subregion

Monthly suspended-sediment samples were collected at the Peace River at Branford, Florida, as part of the NASQAN program.

Subwanee Subregion

Monthly, suspended-sediment samples were collected at Swonee River at Branford, Florida, as part of the NASQAN program.

Periodic measurements of suspended-sediment were continued at Alapaha River near Alapaha, Georgia, in cooperation with the Georgia Department of Natural Resources, Earth and Water Division.

Ochlockonee Subregion

Monthly suspended-sediment samples were collected at the Sopchoppy River near Sopchoppy, Florida, as part of the federal benchmark program.

Apalachicola Subregion

Monthly suspended-sediment samples were collected at Apalachicola River at Chattahoochee, Florida, as part of the NASQAN program.

Periodic measurements of suspended-sediment were begun at Chattahoochee River near Leaf, and Peachtree Creek at Atlanta, Georgia, while periodic measurements were continued at Kinchafoonee Creek near Preston, Line Creek near Senoia, and Ichawaynochaway Creek at Milford, Georgia, in cooperation with the Georgia Department of Natural Resources, Earth and Water Division. In cooperation with the Environmental Protection Division of the Georgia Department of Natural Resources, bottom deposits from eleven (11) sites in the Atlanta area were analyzed for trace metals and pesticide determinations were made on bottom sediments from nine (9) of these sites.

Alabama Subregion

In cooperation with the Georgia Department of Natural Resources, Earth and Water Division, periodic measurements of suspended-sediment were continued at Etowah River near Canton, Georgia.

Continuous records of turbidity were collected beginning in March for Coosa River near Verbena, which is just downstream from Mitchell Dam, as a part of a cooperative program with the Alabama Power Company (Federal Power Commission Licensee).

Sediment data were collected monthly at the Alabama River at Claiborne as part of the National Stream-Quality Accounting Network.

Tombigbee Subregion

Sediment data were collected monthly at Sipsey Fork near Grayson as a part of the national hydrologic benchmark network.

Sediment data were collected monthly at Tombigbee River at Coffeeville Lock and Dam as a part of the National Stream-Quality Accounting Network.

Pascagoula River Subregion

One site, Pascagoula River near Benndale is in the National Stream-Quality Accounting Network where suspended-sediment data were collected monthly.

Suspended-sediment data were also collected monthly on Cypress Creek near Janice, Mississippi, as part of national program by the U.S. Geological Survey to obtain background information on stream basins which, as nearly as possible, represent a natural, undisturbed condition. These data are presented in the annual publication of Water Resources Data for Mississippi.

Pearl Subregion

Monthly sampling of suspended-sediment was begun on Bogue Chitto River near Bush, Louisiana, as a part of the National Water Quality Accounting Network.

Daily sampling of suspended-sediment continued on Pearl River near Bogalusa, Louisiana, as part of the continuing federal program.

SOIL CONSERVATION SERVICE

1. Studies of sediment damages and determinations of sediment yields were made for work plans in the following watersheds:

   a. Public Law-566

Major Drainage	Watershed	Stream	County(s)	State(s)
Mobile River	Factory Creek	Factory Creek	Sumter	Ala.
Mobile	Blue Eye Creek	Blue Eye Creek	Talladega	Ala.
Perdido River	Upper Brushy	Upper Brushy	Escambia	Ala.
Yadkin River	Tri-Creek	Grants, Town and Crane Creeks	Rowan	N. C.
Northeast Cape Fear River	Limestone-Muddy Creek	Limestone-Muddy Creek	Duplin	N. C.
New River	Upper New River	New River	Jasper	N. C.

b. River Basin Investigations

Major Basin	Basin Reported	State(s)
Northeast Gulf	St. Mary's Suwannee, Apalachicola-(Partial), Ochlockonee, Choctawhatchee, Yellow, Escambia	Ala. Ga., & Fla.
Tar-Neuse	Tar-Neuse	N. C.
Edisto River	Ashley-Combahee-Edisto Rivers	S. C.

c. Resource Conservation and Development

Project Name	County(s)	State(s)
Wire Grass	Pike	Ala.
*Kemper County Lake	Kemper	Miss.

*The study of sediment damages was made during 1974, but the determination of sediment yields was made in December 1972. This is the only project initiated which has not been reported.

North Central Piedmont	Almance, Orange, Guilford, Rockingham, Caswell & Chatham	N. C.

Tabulation of the principal data determined in a sediment yield study within the North Central Piedmont, RC&D Project is as follows:

Reservoir	Date of Study	Location	Drainage area (Sq Mi)	Orig. cap. (Ac-Ft)	Age (Yrs)	Sed.Accum/Yr (expected) (Ac-Ft/Sq Mi)	Cap.Loss (expected) (Pct/Yr)
Reidsville	5/74	Rockingham County	56.0	7,980	Under construc.	0.28	0.2

2. Reservoir Sedimentation Surveys

Engineering surveys have been completed on the following site to allow development of an after construction topographic map. Baseline and ranges have been permanently monumented for future sediment surveys.

Major Drainage	Struc. No.	Watershed	Stream	County	State
Ochlocknee Riv.	8	Bridge Ck. Ocklocknee River	Trib. to Ochlocknee River	Colquitt	Ga.

Summary of sediment deposition data: Twelve Mile Creek Watershed, Pickens County, South Carolina

Structure No.	Date of Survey	Drainage area	Length of record	Original capacity		Total deposit	Average annual sed't. deposit		Annual capacity loss	
				Sediment Pool	Both pools		Sed. pool	Both pools	Sed. pool	Both pools
		(SqMi)	(yrs)	(Ac-Ft)		(Ac-Ft)	(Ac-Ft/SqMi)		(percent)	
12	12-1974	0.72	20.08	41.4	215.3	9.9	.33	.68	0.58	0.23
16	12-1974	8.40	19.08	321.2	2370.8	140.5	.42	.93	1.05	0.31

3. Evaluation studies initiated:
Sediment deposition surveys were initiated within the following watersheds:

Watershed	Structure No.	Drainage area	Original capacity		Surface area		No. ranges	County(s)	State(s)
			Sediment pool	Both pools	Sediment pool	Both pools			
		(SqMi)	(Ac-Ft)		(Ac)				
Beaverdam Creek	4	3.97	237	1484	27	87	46	Anderson & Oconee	South Carolina
Duncan Creek	8	1.83	76	330	10	33	23	Laurens	South Carolina

GREAT LAKES REGION

FOREST SERVICE

The following National Forests have sedimentation (suspended sediment or turbidity) monitoring programs designed to quantify the effects of road construction, timber harvest, recreational development, or mining activities: Nicolet (Wisconsin), Hiawatha (Michigan), Huron-Manistee (Michigan), Ottawa (Michigan), and Superior (Minnesota). The intensity of the various monitoring efforts varies by Forest and activity.

GEOLOGICAL SURVEY

Western Lake Superior Subregion

Monthly sampling of suspended-sediment was started at the U.S. Geological Survey, National Stream-Quality Accounting Network stations on the Baptism River near Beaver Bay, Minn., and St. Louis River at Scanlon, Minn.

Intermittent suspended-sediment discharge measurements at Washington Creek at Windigo (Isle Royale), Michigan, were resumed in April 1974. This station was operated as part of the Hydrologic Benchmark Network.

Monthly suspended-sediment discharge measurements were begun in October at Ontonagon River near Rockland, Michigan, and Tahquamenon River near Tahquamenon Paradise, Michigan, as part of the National Stream-Quality Accounting Network.

Sediment sampling was continued on a daily and storm-event basis on the Nemadji River near Superior, Wisconsin. Samples for particle size of both suspended and bed material as well as samples for chemical characteristics of transported material were collected on an intermittent basis.

Intermittent and storm event suspended-sediment discharge measurements and some periodic particle-size measurements were continued at the following stations:

Bois Brule River at Brule, Wisc.
Bois Brule River near Lake Superior, Wisc.
Bad River near Odanah, Wisc.

The Bad River near Mellen, Alder Creek near Upson, and White River near Ashland, Wisconsin, were established as sites for periodic and storm-event, suspended-sediment measurements.

Northwestern Lake Michigan Subregion

The following twelve sites were established for periodic and storm event, suspended-sediment discharge determinations, intermittent particle-size determination of bed and suspended material, and intermittent determination of chemical characteristics of transported material:

Menomonee River at Germantown, Wisc.
Menomonee River at Menomonee Falls, Wisc.
Menomonee River at Butler, Wisc.
Little Menomonee River near Freistadt, Wisc.
Noyes Creek at Milwaukee, Wisc.
Little Menomonee River at Milwaukee, Wisc.
Underwood Creek at Wauwatosa, Wisc.
Honey Creek at Wauwatosa, Wisc.
Menomonee River at Wauwatosa, Wisc.
Schoonmaker Creek at Wauwatosa, Wisc.
Hawley Road Storm Sewer at Wauwatosa, Wisc.
Menomonee River at Milwaukee, Wisc.

Weekly and storm event, suspended-sediment discharge measurements along with some particle size determinations were made at the following sites:

Popple River near Fence, Wisc. (benchmark station)
Pensaukee River near Pensaukee, Wisc.
Kewaunee River near Kewaunee, Wisc.
E. Branch Milwaukee River near New Fame, Wisc.
Milwaukee River at Kewaskum, Wisc.

Periodic and storm event, suspended-sediment discharge measurements and some particle-size determinations were continued at the following stations:

Oconto River near Gillett, Wisc.
Grand River near Kingston, Wisc.
Embarrass River near Embarrass, Wisc.
E. Branch Twin River at Mishicot, Wisc.
Manitowoc River at Manitowoc, Wisc.
N. Branch Milwaukee River near Fillmore, Wisc.
Cedar Creek near Cedarburg, Wisc.
Milwaukee River at Milwaukee, Wisc.
Oak Creek near South Milwaukee, Wisc.
Root River near Franklin, Wisc.
Root Rover at Racine, Wisc.
Pike River near Racine, Wisc.

Other Streams Tributary to Lake Michigan

Monthly suspended-sediment discharge measurements were begun at 6 stations as part of the National Stream-Quality Accounting Network. Kalamazoo River near Saugatuck, Michigan, and Muskegon River Muskegon, Michigan, were begun in January. In July operations at Muskegon River near Muskegon were relocated to Muskegon River near Bridgeton, Michigan. Sampling was begun at Manistee River at Manistee, Michigan, in October, and in December at Manistique River at Manistique, Michigan, Escanaba River at Cornell, Michigan, and Ford River near Hyde, Michigan.

In cooperation with the Michigan Department of Agriculture, a study of the relation of agricultural land-use practices to the erosion of chemical and physical materials was begun in the upper reaches of the St. Joseph River basin. Four daily sediment stations were installed at locations on the St. Joseph River, Sand Creek, Soap Creek, and Beebe Creek. Periodic sediment samples are being obtained at 13 additional sites in the basin.

Streams Tributary to Lake Huron

Monthly suspended-sediment discharge measurements were begun in October at Cheboygan River at Cheboygan, Michigan Rifle River near Sterling, Michigan, and Clinton River at Mt. Clemens, Michigan, as part of the National Stream Quality Accounting Network.

Periodic suspended-sediment discharge measurements were made at 6 stations on the Middle River Rouge near Plymouth, Michigan, in cooperation with the Michigan Dapartment of Natural Resources.

Western Lake Erie Subregion

The daily suspended-sediment station at Maumee River at Waterville, Ohio, was discontinued on Sept. 30, 1974. This station was operated in cooperation with the State of Ohio.

Measurements of fluvial sediment, made on an intermittent basis in cooperation with the State of Ohio, were discontinued on Sept. 30, 1974, at the following locations:

Auglaize River near Defiance, Ohio
Auglaize River near Fort Jennings, Ohio
Blanchard River near Findlay, Ohio
Huron River at Milan, Ohio
Sandusky River near Bucyrus, Ohio
Sandusky River near Mexico, Ohio
Tiffin River at Stryker, Ohio
Tymochtee Creek at Crawford, Ohio
Vermilion River near Vermilion, Ohio

Southern Lake Erie Subregion

Determinations of daily suspended-sediment discharge and periodic particle-size distributions of suspended-sediment and bed material were continued at Cuyahoga River at Old Portage, Ohio, in cooperation with the U.S. Army, Corps of Engineers, Buffalo District.

The daily suspended-sediment station at Cuyahoga River at Independence, Ohio was discontinued on Sept. 30, 1974. This station was operated in cooperation with the State of Ohio.

The daily sediment station at Tinkers Creek at Bedford was reactivated on Jan. 1, 1974, in cooperation with the Three Rivers Watershed District, Cleveland, Ohio. Annual determinations at this station include: Daily suspended-sediment discharge; periodic particle-size distribution of suspended-sediment and bed material; and two instantaneous bed load discharges.

Measurements of suspended-sediment discharge on a weekly basis and during storm runoff periods were continued at Rocky River near Berea, Ohio, and at Chagrin River at Willoughby, Ohio, in cooperation with the Three Rivers Watershed District, Cleveland, Ohio. In addition, periodic determinations of particle-size distribution of suspended sediment were made at both stations.

Intermittent measurements of fluvial sediment, made in cooperation with the State of Ohio, were discontinued on Sept. 30, 1974, at the following locations:

Ashtabula River near Ashtabula, Ohio
Black River at Elyria, Ohio
Grand River near Madison, Ohio

Eastern Lake Erie Subregion

Intermittent fluvial sediment measurements, made in cooperation with the State of Ohio, at Conneaut Creek at Conneaut, Ohio, were discontinued on Sept. 30, 1974.

Southwestern Lake Ontario Subregion

Periodic suspended-sediment sampling was continued at the NASQAN station Niagara River (Lake Ontario) at Fort Niagara, New York, and was begun in May at the NASQAN station Genesee River at Charlotte Docks at Rochester, New York.

Southeastern Lake Ontario Subregion

Periodic suspended-sediment sampling was begun in October at the NASQAN station Oswego River at Lock 7 at Oswego, New York.

Northeastern Lake Ontario - St. Lawrence Subregion

Periodic suspended-sediment sampling was begun at three NASQAN stations, Black River at Watertown in November, St. Regis River at Brasher Center in October, and St. Lawrence River at Cornwall, Ontario, near Massena, New York, in September.

SOIL CONSERVATION SERVICE

1. Studies of sediment damage and determinations of sediment yield were made in the following watersheds:

a. Public Law 566

Major Drainage	Watershed	Stream	County(s)	State(s)
Lake Michigan-Grand River	U. and L. Maple River	Maple R.	Clinton Gratiot Shiawassee	Michigan
Lake Michigan-Grand River	Rogue River	Rogue R.	Kent Newaygo	Michigan
Lake Michigan-Saginaw River	State Road Drain	Trib. to Shiawassee	Shiawassee	Michigan
Lake Michigan	Kewaunee	Kewaunee R.	Brown Kewaunee	Wisconsin
Lake Michigan	Rost Lake	Peshtigo R.	Oconto	Wisconsin

b. Reservoir Sedimentation Survey

A sedimentation survey was made of Margaret Creek site No. 2 reservoir, Athens County, Ohio. Computations are not yet completed. Original capacity of reservoir was 2178 ac. ft. and drainage area 4.04 sq. mi.

c. River Basin Investigations

Major Basin	Basin Reported	State
Lake Erie	Maumee River	Ohio

General sedimentation study of the following river basin was made with no watershed studied individually.

Ontario Lake Plains	--	New York

OHIO REGION

CORPS OF ENGINEERS

Ohio River Division

Report on sedimentation activities in the Ohio River Division for calendar year 1974 is as follows:

a. Sedimentation Resurveys.

(1) Youghiogheny River Lake; Youghiogheny River Basin, Pennsylvania: The field survey and laboratory analysis of sediment have been completed. The second sedimentation survey report has been initiated and is scheduled for completion in FY 1975.

(2) Tygart Lake, Tygart River Basin, West Virginia: The field survey and laboratory analysis of the sediment for the third sedimentation survey report has been completed. The sedimentation survey report is scheduled for completion in calendar year 1975.

(3) Sutton Lake, Elk River, West Virginia: The report on the 1973 detailed sediment range resurvey previously submitted for review, was approved by the Ohio River Division. A sedimentation rate of 0.16 acre-foot per year per square mile of contributing drainage area was indicated for the 12.9-year period from February 1960 to January 1973.

(4) Bluestone Lake, New River, West Virginia: The Ohio River Division approved the report on the 1965 sediment range resurvey as revised in February 1974. The resurvey indicated an annual sedimentation rate of 0.15 acre-foot per square mile of contributing drainage area for the 15.8-year period from July 1949 to May 1965.

(5) Dillon Lake, Licking River, Ohio: The report on the resurvey of selected sediment ranges was submitted to and approved by the Ohio River Division in 1974. The resurvey indicated an annual rate of sedimentation in the seasonal pool area of the lake of 0.17 acre-foot per square mile of contributing drainage area for the 12.2-year period from February 1961 to March 1973.

(6) Wills Creek Lake, Wills Creek, Ohio: A report on the survey of seven sediment ranges located in the minimum pool area was submitted to and approved by the Ohio River Division. The rate of sedimentation in the minimum pool area indicated by the survey, for the 37.2-year period from June 1936 to September 1973, was 0.11 acre-foot per year per square mile of contributing drainage area.

(7) Fishtrap Lake, Levisa Fork, Kentucky: The second resurvey of sediment ranges was completed in 1974. A report on the results of the resurvey was submitted to and approved by the Ohio River Division. The rate of sedimentation in the seasonal pool area indicated by the resurvey was 2.46 acre-feet per year per square mile of contributing drainage area for the 5.3-year period from October 1968 to January 1974. The period from October 1968 to March 1972, was 2.60 acre-feet per year. The second resurvey indicated that the rate of sedimentation at Fishtrap Lake continues to be excessive.

(8) Dewey Lake, Johns Creek, Kentucky: A detailed resurvey of the sediment ranges was completed in 1974. The sedimentation rate indicated by the resurvey was not excessive. A report on the results of the resurvey was completed and submitted to the Ohio River Division for review.

(9) Beach City Lake, Sugar Creek, Ohio: A report on the survey of ten sediment ranges located in the minimum pool area was completed and submitted to the Ohio River Division for review in 1974.

(10) John W. Flannagan Lake, Pound River, Virginia: The first detailed resurvey of sediment ranges was completed in 1974 and a report on the resurvey is scheduled for completion in FY 1975.

(11) Piedmont Lake, Stillwater Creek, Ohio and North Fork of Pound Lake, North Fork of Pound River, Virginia: Resurveys of selected sediment ranges were completed in 1974. Reports on the resurveys are scheduled for completion in FY 1975.

(12) Grayson Lake, Little Sandy River, Kentucky: A resurvey of selected sediment ranges was initiated in 1974. The remaining field work and a report on the results of the resurvey are scheduled for completion in 1975.

b. Sediment Load Measurements.

(1) Fishtrap Lake, Levisa Fork, Kentucky and at Dewey Lake, Johns Creek, Kentucky: Sediment monitoring programs are in progress. The programs are being conducted in cooperation with the U.S. Geological Survey and funded by the U.S. Army Corps of Engineers. The objectives of the programs are to (a) determine quantities and sources of sediment entering the lakes, (b) relate sediment yields to land use practices upstream from each measurement site, (c) relate basin characteristics and land use to sediment yield data, and (d) to determine the trap efficiency of the lakes. Data are being gathered at various locations in the Fishtrap Lake and Dewey Lake areas. Aerial photographs of the drainage basins above Fishtrap Dam and Dewey Dam were taken in 1974 for use in conjunction with the sediment monitoring programs.

(2) R. D. Bailey Lake, Guyandoote River, West Virginia: A sediment monitoring program initiated in 1973, is being conducted in cooperation with the U.S. Geological Survey. Sediment data were collected at the Guyandotte River near Baileysville, West Virginia, monitoring station during 1974 and two additional sediment monitoring stations were established on nearby tributary streams, Clear Fork and Indian Creek.

(3) Carr Fork Lake, Kentucky River Basin, Kentucky: An automatic sediment sampler (P.S. 69) installed just upstream of the dam in 1973 continued in operation.

c. Additional Division Activities.

(1) Sutton Lake, Elk River Basin, West Virginia: The investigation of turbidity below Sutton Dam continued during 1974. A cooperative program with the U.S. Geological Survey, initiated in 1973, is in progress to collect turbidity and temperatue data above Sutton Dam and in the Elk River below the dam. The data will be used in a mathematical model to investigate the effects of structural and operational modifications on turbidity.

(2) Carr Fork Lake, Kentucky River Basin, Kentucky: A report on "Effects of Coal Mining Operations" was submitted to Ohio River Division by the Louisville District in February 1974. During the resultant review and analysis, the District was directed to expedite the development of Plans and Specifications for sediment control dams to be built as low in the watershed as physically feasible. Work is now underway.

(3) The Louisville District entered into an agreement with WES to determine sediment deposits in 12 of the District's older lakes. The plan was to employ subbottom profiling equipment which would show the existing bottom plus the original undisturbed bottom. Early attempts to use this equipment have not been successful but WES is planning to make one more attempt using more powerful equipment. Plans are to use that type equipment in lakes throughout the Basin if feasible.

(4) A new Basin map will be distributed in February 1975. It will have lines of equal sediment yield updated using field survey results through 1974, in addition to project status.

FOREST SERVICE

Kentucky - Forest land in the Green River Basin was sampled with approximately 250 plots for erosion and sediment data. Preliminary results indicate that 40 percent of the sediment comes from woodland grazing, 29 percent from skid trails, 24 percent from logging roads, 4 percent from logging, 2 percent from natural and 1 percent from fire.

Jefferson National Forest - Jefferson National Forest, Ohio River Region, 23 points were sampled for chemicals on a regular basis. This includes 10 points to monitor timber sale activities and lead to 1 corrective action. Two points were to monitor new road construction. Four points were for background data. Four were in relation to fish habitat investigations. (Plus one fish kill investigation brought on by high temperatures in a pond unsuitable for trout, being stocked with trout) and one point was started to study the effects of grazing in the crest zone of the Mount Rogers N.R.A.

One point is to monitor 62 acres of orphaned manganese mine of which 12 acres were restored in CY 74. Two points are to monitor restored mines. This last monitoring led to discovery of major maintenance needs. The remaining point monitors National Forest land above a public water supply.

The following National Forests have sedimentation (suspended sediment or turbidity) monitoring programs designed to quantify the effects of road construction, timber harvest, recreational development, or mining activities: Wayne-Hoosier (Indiana and Ohio), Allegheny (Pennsylvania), and Monongahela (West Virginia). The intensity of the various monitoring efforts varies by Forest and activity.

GEOLOGICAL SURVEY

Special Studies

In cooperation with the Tennessee Highway Department, the problem of scour at highway bridges is being investigated at known and potential problem sites across Tennessee. Reports are planned documenting data and research findings.

Data analysis continued in the evaluation of hydrologic geologic, topographic, and land-use features on (1) the relation between sediment discharge and water discharge, and (2) the average-annual sediment yield of streams in Pennsylvania.

Collection of data continued in two diverse geologic areas to determine the effects of highway construction on suspended-sediment discharge. One of the areas, near Enola, Pa., is underlain by shale; in this area data are being collected from five adjacent streams to determine the effects of the construction and the effectiveness of different types of sediment control measures. Construction work on the roadway has been in progress since December 1972 and the earthmoving is about 70 percent complete. The second area is located north of Williamsport (in the Appalachian High Plateau) and is underlain by shale and sandstone. Construction of the roadway began in the summer of 1973.

Collection of daily sediment data continued for First Fork Sinnemahoning Creek near Sinnemahoning, Pa., in connection with a study of reservoir trap efficiency, and the Susquehanna River at Watsontown, Pa., in connection with a bedload study.

Limited research was conducted in the laboratory to determine effect of sediment on water quality based on variations of water temperature and various dissolved oxygen concentrations.

Monongahela Subregion

Sediment data were collected about monthly at Tygart Valley River at Philippi, West Virginia, West Fork River at Enterprise, West Virginia, and Cheast River at Rowlesburg, West Virginia. These three stations were discontinued July 1, 1974.

Sediment data were collected about monthly at Shavers Fork at Bemis, West Virginia, Shavers Fork above Bowden, West Virginia and Shavers Fork near Elkins, West Virginia in cooperation with the West Virginia Department of Highways.

Sediment data were collected on a daily basis as part of the Shavers Fork basin cooperation program with the West Virginia Department of Highways at Taylor Run near Bowden, West Virginia and Shavers Fork below Bowden, West Virginia.

Pittsburgh - Wheeling - Beaver Subregion

Intermittent measurements of fluvial sediment, made in cooperation with the State of Ohio, were discontinued Sept. 30, 1974, at the following locations:

Captina Creek at Armstrongs Mills, Ohio
Little Beaver Creek near East Liverpool, Ohio
Short Creek near Dillonvale, Ohio
Yellow Creek near Hammondsville, Ohio

Muskingum Subregion

The daily suspended-sediment station at Muskingum River at Dresden, Ohio, was discontinued on Sept. 30, 1974.

Intermittent measurements of fluvial sediment at the following locations were discontinued on Sept. 30, 1974:

Chippewa Creek at Easton, Ohio
Kokosing River at Millwood, Ohio
North Fork Licking River at Utica, Ohio
Sandy Creek at Waynesburg, Ohio
Sugar Creek above Beach City Dam at Beach City, Ohio
Wakatomika Creek near Frazeysburg, Ohio

All of the above discontinued stations were operated in cooperation with the State of Ohio.

Kanawha Subregion

Sediment data were collected about monthly at Greenbrier River at Greenbrier River at Hilldale, West Virginia, Bluestone River near Pipestem, West Virginia and Gauley River near Craigsville, West Virginia. These three stations were discontinued July 1, 1974.

Sediment data were collected about monthly at Elk River below Webster Springs, West Virginia as part of the Elk River Project.

Sediment data were collected about monthly at Kanawha River at Winfield, West Virginia as part of the National Stream-Quality Accounting Network.

Sediment data were collected about monthly and were discontinued July 1, 1974 as part of the Elk River Project in cooperation with West Virginia Geological and Economic Survey.

Elk River near Webster Springs, W. Va.
Back Fork Elk River at Webster Springs, W. Va.
Laurel Creek at Centralia, W. Va.
Right Fork Holly River at Guardian, W. Va.
Left Fork Holly River near Replete, W. Va.
Elk River at Sutton, W. Va.
Birch River at Harold, W. Va.
Buffalo Creek at Clay, W. Va.
Elk River at Queen Shoals, W. Va.
Big Sandy Creek at Clendenin, W. Va.
Blue Creek at Blue Creek, W. Va.
Little Sandy Creek at Sandy, W. Va.
Elk River at Charleston, W. Va.

Sediment data were collected about monthly as part of the Coal River Project in cooperation with the West Virginia Geological and Economic Survey.

Marsh Fork at Whitesville, W. Va.
Clear Fork at Whitesville, W. Va.
Big Coal River near Seth, W. Va.
Laurel Creek at Seth, W. Va.
Drawdy Creek near Peytona, W. Va.
Big Coal River at Ashford, W. Va.
Big Coal River near Alum Creek, W. Va.
Big Coal River at Forks of Coal, W. Va.
Spruce Fork at Clothier, W. Va.
Spruce Laurel Fork at Clothier, W. Va.
Spruce Fork at Madison, W. Va.
Pond Fork at Bob White, W. Va.
West Fork at Van, W. Va.

Pond Fork at Madison, W. Va.
Little Coal River at Forks of Coal, W. Va.

Sediment data were collected daily in cooperation with the West Virginia Department of Highways.

Little Coal River at Danville, W. Va.
Little Coal River At Julian, W. Va.
Big Coal River near Alum Creek, W. Va.
Coal River at Alum Creek, W. Va.
Coal River at Tornado, W. Va.

Sediment data were collected about monthly in cooperation with the Soil Conservation Service, USDA, at Howard Creek at Caldwell, West Virginia.

Scioto Subregion

The daily suspended-sediment station at Scioto River at Higby, Ohio, was discontinued on Sept. 30, 1974.
Intermittent measurements of fluvial sediment were discontinued on Sept. 30, 1974, at the following locations:

Alum Creek at Africa, Ohio
Big Darby Creek at Darbyville, Ohio
Deer Creek at Mount Sterling, Ohio
Olentangy River at Claridon, Ohio
Paint Creek near Greenfield, Ohio

All of the above discontinued stations were operated in cooperation with the State of Ohic.

Portsmouth - Little Kanawha - Big Sandy Subregion

Intermittent measurements of fluvial sediment, made in cooperation with the State of Ohio, were discontinued on Sept. 30, 1974, at the following locations:

Little Muskingum River at Bloomfield, Ohio
Shade River near Chester, Ohio
Raccoon Creek at Adamsville, Ohio

Sediment data were collected about monthly at Mud River near Milton, West Virginia as part of the Federal National Stream-Quality Accounting Network.

Sediment data were collected daily at Guyandotte River near Baileysville, West Virginia, and starting July 1, 1974 at Clear Fork at Clear Fork, West Virginia and Indian Creek at Fanrock, West Virginia as part of the cooperative reservoir study with the U.S. Army Corps of Engineers.

A three year study begun in 1973 to evaluate the effects of coal mining activity on accumulation of sediment in two Corps of Engineer reservoirs in the Levisa Ford basin. The study will determine quantities and sources of sediment entering Fishtrap and Dewey reservoirs, will relate sediment yields to land use practices and basin characteristics, and will determine trap efficiency of the reservoirs. Sediment discharge is being determined for 16 tributaries using automatic pumping samplers or periodic sampling. The work is being done in cooperation with the Huntington, W. Va. district, U.S. Corps of Engineers.

Great Miami Subregion

The measurement of suspended-sediment discharge and the determination of particle-size distribution of suspended sediment on an intermittent basis were continued at Stillwater River at Pleasant Hill, Ohio. A daily suspended-sediment station was continued at Great Miami River at Sidney, Ohio. Weekly plus storm runoff suspended-sediment measurements and periodic determinations of particle-size distribution of suspended-sediment were continued at Loramie Creek near Newport, Ohio. These three stations were operated in cooperation with the Miami Conservancy District, Dayton, Ohio.

Intermittent measurements of fluvial sediment, made in cooperation with the State of Ohio, were discontinued on Sept. 30, 1974, at the following locations:

Great Miami River at Troy, Ohio
Greenville Creek near Bradford, Ohio
Mad River near Urbana, Ohio
Sevenmile Creek at Collinsville, Ohio
Twin Creek near Ingomar, Ohio

Suspended-sediment samples were collected on an intermittent basis at Whitewater River at Brookville, Indiana, as part of the National Stream-Quality Accounting Network.

Samples of suspended-sediment were collected at approximately monthly intervals at Whitewater River near Alpine and at E. F. Whitewater River at Abington, Indiana, in cooperation with the State of Indiana.

Cincinnati - Little Miami Subregion

Suspended-sediment measurements were continued on a monthly basis at the Federal Hydrologic Benchmark Network Station, Upper Twin Creek at McGaw, Ohio.

Intermittent measurements of fluvial sediment, made in cooperation with the State of Ohio, were discontinued on Sept. 30, 1974, at the following locations.

East Fork Little Miami River near Marathon, Ohio
Ohio Brush Creek near West Union, Ohio
Whiteoak Creek near Georgetown, Ohio

Suspended-sediment samples were collected monthly at South Hogan Creek near Dillsboro, Indiana, as part of the Federal Benchmark Network.

Louisville - Salt Subregion

Samples were collected at approximately monthly intervals at Blue River near White Cloud, Indiana, in cooperation with the State of Indiana.

White and Patoka Subregion

Monthly suspended-sediment samples were collected at the following stations in cooperation with the State of Indiana:

White River near Noblesville, Ind.
Eagle Creek near Zionsville, Ind.
Big Walnut Creek near Reelsville, Ind.
Mill Creek near Cataract, Ind.
Big Blue River at Shelbyville, Ind.
Sugar Creek near Edinburg, Ind.
Flatrock River at St. Paul, Ind.
Sand Creek near Brewersville, Ind.
Muscatatuck River near Deputy, Ind.
White River at Hazelton, Ind.

A daily suspended-sediment station was continued on the E. F. White River at Seymour, Indiana, in cooperation with the State of Indiana.

Wabash Subregion

Two daily suspended-sediment stations were operated in cooperation with the State of Indiana, Big Racoon Creek near Fincastle and Eel River near Logonsport, Indiana.

Intermittent suspended-sediment samples were collected at the following stations in cooperation with the State of Indiana:

Wabash River at Linn Grove, Ind.
Little River near Huntington, Ind.
Salamonie River near Warren, Ind.
Deer Creek near Delphi, Ind.
Tippecanoe River near Ora, Ind.
Wildcat Creek near Lafayette, Ind.
Wabash River at Lafayette, Ind.
Sugar Creek at Crawfordsville, Ind.

Monthly samples were collected at the Wabash River at New Harmony, Indiana, as part of the National Stream-Quality Accounting Network.

Cumberland Subregion

Monthly suspended-sediment samples are collected at Cumberland River at Carthage, Tennessee, as part of the National Stream-Quality Accounting Network.

The one year study of suspended-sediment discharge was continued in Cane Branch near Parkers Lake, Kentucky. The data will be used to update previous work on sedimentation in a basin that was surface mined and has since revegetated naturally. Suspended-sediment samples were collected by automatic sampler above a predetermined stage.

Evansville - Green Subregion

Daily measurement of suspended-sediment were continued on Green Rivers at Munfordville, Kentucky, as part of the Federal Index Network. Intermittent suspended-sediment samples were collected at Middle Fork Anderson River at Bristow, Indiana, in cooperation with the State of Indiana.

SOIL CONSERVATION SERVICE

1. Studies of sediment damage and determination of sediment yield were made in the following watersheds:

a. Public Law 566

Major Drainage	Watershed	Stream	County(s)	State(s)
Ohio River	Muddy Fork of Silver Creek	Silver Cr.	Clark Floyd Washington	Indiana
Wabash River	Stucker Fork	Stucker Fork	Clark, Scott Jefferson Washington	Indiana
Wabash River	Delaney Creek	Delaney Cr.	Washington	Indiana
Wabash River	Lye Creek Drain	Lye Creek	Montgomery	Indiana
Wabash River	Jordan Creek	Jordan Cr.	Vermillion Warren	Illinois Indiana

2. **Reservoir Sedimentation Surveys:**

New York

Reservoir	Date of Survey	Location	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (yrs)	Sediment Accum/yr (Ac-Ft/Sq Mi)	Capacity Loss (Pct/Yr)
Ischua Ck Site 2	9-74	42°23'Lat 78°25'Long	2.8	488.96	10.12	.033	.018
Ischua Ck Site 5	9-74	42°19'Lat 78°25'Long	6.4	1058.56	10.17	.043	.025
Conewango Ck-Site 9A	9-74	42°23'05"Lat 79°06'58"Lat	6.0	706.95	0 (Original capacity determined)	0	0

Pennsylvania

Reservoir	Date of Survey	Location	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft.)	Age (Yrs)	Sediment Accum/yr (Ac-Ft/Sq Mi)	Capacity Loss (Pct/yr)
Sandy Ck PA-474	6-73	41°20'Lat 80°06'Long	2.3	356.9	9	.02	.01

OHIO RIVER REGION

SOIL CONSERVATION SERVICE

(a) Reservoir Sedimentation Surveys were made to determine sediment deposition of the following reservoirs and debris basins in Kentucky.

	Date of Survey	Drainage Area (Sq Mi)	Length of Record (yr)	Original Capacity (Ac-Ft)	Present Capacity (Ac-Ft)	Total Depos. (Ac-Ft)	Av. Annual Sed. Depos. (Ac-Ft/ Sq Mi)	Annual Capa-city Loss %
Browings Fork Debris Basin Leslie Co.	5/10/74	0.47	3	16.65	0	16.65	11.81	33.33
Cowbell Lake Madison Co	9/26/74	1.07	20	511.8	505.5	6.22	0.29	.06
Fox Creek #4 Fleming Co	2/28/75	7.31	6 1/2	523	507	16.00	0.34	.47

(b) Reservoir sedimentation survey field work has been completed on two PL-46 (Pilot Watershed) structures. This will be the third reservoir survey for Plum Creek structures No. 15 and No. 17. Data computations have not been finalized.

(c) Land use, treatment, and soils data were collected in the drainage areas of 27 SCS designed PL-566 floodwater retarding and multiple purpose structures whose reservoirs are scheduled for sedimentation surveys.

(d) Contributions were made on land use and cover conditions for the Beaver Creek Interagency Strip Mining Study, McCreary County, Kentucky. Gross erosion and sediment yield computations were made for three branches; Cane, Helton, and West Fork Cane, tributaries of the Beaver Creek Basin.

TENNESSEE REGION

FOREST SERVICE

Forest land in the Obion-Forked Deer River Basin was sampled with approximately 300 plots for erosion and sediment data. Preliminary results indicate that 92 percent of the sediment comes from woodland grazing, 3 percent from logging, 3 percent from natural, 1 percent from spur roads, 1 percent from skid trails and a trace from burns.

Jefferson National Forest - Five monitoring stations were maintained to monitor regular timber sales. Six additional monitoring stations were maintained to study the effect of cable logging on water quality. (So far no measurable effect on quality.) One active coal mining operation was monitored as well as one partially restored manganese mine. Results indicate both will require additional sediment control. Three water quality stations were maintained to monitor trout fishery conditions.

National Forests in Alabama - The TVA is cooperating with the Forest Service in evaluating hydrologic and sediment effects from timber harvesting and cultural treatments on four forested watersheds ranging from less than one to 10 square miles in area.

GEOLOGICAL SURVEY

Upper Tennessee Subregion

Monthly suspended-sediment samples were collected at French Broad River near Knoxville, Tennessee, as part of the National Stream-Quality Accounting Network.

Tennessee - Hiwassee - Sequatchie Subregion

Monthly suspended-sediment samples were collected at Tennessee River at Watts Bar Dam, Tennessee, as part of the National Stream-Quality Accounting Network.

Tennessee - Elk Subregion

Monthly suspended-sediment samples were collected at Tennessee River at South Pittsburg, Tennessee, as part of the National Stream-Quality Accounting Network. This site is also included in the National Pesticide Monitoring Network, which also requires periodic sediment sampling.

Lower Tennessee Subregion

Monthly suspended-sediment samples were collected at Tennessee River at Pickwick Landing Dam (Lower Lock), and Buffalo River near Flat Woods, Tennessee. The Pickwick Landing Dam site is part of the National Stream-Quality Accounting Network, and the Flat Woods site is part of the National Hydrologic Benchmark Network.

TENNESSEE VALLEY AUTHORITY

During the period January 1 through December 31, 1974, the Tennessee Valley Authority sounded established ranges on La Follette, Tennessee, water supply reservoir. Sediment sampling was continued at two experimental watersheds in the Valley to assess the effects of management practices.

La Follette Water Supply Reservoir (Upper Ollis Creek Reservoir)

During October 1974, the 46 sediment ranges were sounded which had been established, sounded, and probed in October 1970. Sediment surveys were also made in 1971, 1972, and 1973. Deposited sediment accumulations are being monitored to ascertain the effects of strip mining and subsequent reclamation work in the watershed. The 1974 survey showed a total of 42 acre-feet of sediment, an increase of 6 acre-feet since October 1973 and about half the rate experienced in the previous two years.

Sediment Measurements at Research Projects

Total or suspended sediment loads were measured at several experimental and research watersheds in the Valley to monitor the effects of timber and land management practices. Total sediment yield measurements were continued at the Pine Tree Branch watershed and suspended sediment measurements continued at two small areas in the Upper Bear Creek watershed in northwestern Alabama.

UPPER MISSISSIPPI REGION

CORPS OF ENGINEERS

North Central Division

Buffalo District

Cattaraugus Creek, N.Y. As part of the Phase II General Design Memorandum (GDM) for a proposed small boat harbor project, an A-E was contracted to furnish a report on "Littoral processes and sedimentation in the Cattaraugus Embayment, N.Y." This report has been received (in part) and will be included in the Phase II GDM scheduled for completion in 1975.

Presque Isle, Pa. Presque Isle is a large recurved spit which completely shelters the harbor for Erie, Pa. and functions as a state park. The Buffalo District, in cooperation with State authorities, will conduct the first phase of a 5-year emergency beach replenishment program in calendar year 1975. In calendar year 1974 sampling investigations were made in an attempt to isolate a suitable offshore borrow site for fill material.

Charim River Eastlake, Ohio. As part of the design analysis on a proposed small boat harbor, the A-E was directed to conduct a study and produce a report on littoral and fluvial transport and the impact of the proposed project on these processes. The report is scheduled for completion in 1975.

Harbors in the District are periodically sounded to determine loss of depth due to sediment accumulation. This information is used to develop specific dredging operation.

Rock Island District

Sedimentation Surveys. The establishment and survey of reservoir sedimentation ranges in Lake Red Rock are about 90 percent completed. The establishment and survey of reservoir sedimentation ranges in Saylorville Lake are approximately 23 percent completed. Survey of sedimentation ranges in the reservoirs formed by dams on Rocky Run, Little Rocky Run, and Jennifer Creek are 100 percent completed.

Suspended Sediment Sampling. Suspended load sampling has been continued at 18 stations, four located on the Mississippi River and 14 on its tributaries. Four of the tributary stations in Iowa are operated on a cooperative cost sharing basis with the U.S. Geological Survey.

St. Paul District

Sediment Load Measurements. Sediment load measurements are currently being made at five stations in the Minnesota River Basin and three stations in the Kickapoo River Basin. Measurements are also being made at one station in the Souris River Basin, North Dakota and the Chippewa River Basin, Wisconsin. These sediment load measurements are being conducted by the U.S. Geological Survey under St. Paul District sponsorship.

FOREST SERVICE

The following National Forests have sedimentation (suspended sediment or turbidity) monitoring programs designed to quantify the effects of road construction, timber harvest, recreational development, or mining activities: Chippewa (Minnesota), Chequamegon (Wisconsin), Nicolet (Wisconsin), and Shawnee (Illinois). The intensity of the various monitoring efforts varies by Forest and activity.

GEOLOGICAL SURVEY

All data through 1973 on sediment in streams published by the U.S. Geological Survey, and on reservoir sedimentation surveys published by the Soil Conservation Service for streams in, and bordering, Iowa are being compiled in a report to be published by the U.S. Geological Survey. The work is being done in cooperation with the Iowa Geological Survey.

Minnesota Subregion

Daily suspended-sediment stations for sampling the Minnesota River at Mankato and New Ulm, Minn., Whetstone River near Big Stone City, S. Dak. and Yellow Bank River near Odessa, Minn., were maintained during the year, in cooperation with the Corps of Engineers.

Monthly sampling of suspended sediment was started at the U.S. Geological Survey, National Stream-Quality Accounting Network station on the Minnesota River near Jordan, Minn.

Weekly and more frequent at high stages suspended-sediment sampling was continued at the Cottonwood Rover near New Ulm, Minn., in cooperation with the Corps of Engineers.

Intermittent suspended-sediment sampling was continued at the Chippewa River near Milan, Minn., a periodic station. This station is maintained in cooperation with the Minnesota Department of Natural Resources, Division of Water; Soils and Minerals.

Monthly suspended-sediment samples were collected at the U.S. Geological Survey, National Stream-Quality Accounting Network station on the Mississippi River at St. Paul, Minn.

St. Croix Subregion

Periodic and storm-event, suspended-sediment discharge determinations along with some particle-size measurements were started on the Pine Creek near Oxbow, Wisc.

Mississippi - Black-Root Subregion

Collection of monthly and storm-event suspended-sediment samples was continued at the U.S. Geological Survey hydrologic benchmark station on the North Fork Whitewater River near Elba, Minn. Also, periodic suspended-sediment particle-size analyses were obtained.

Intermittent suspended-sediment samples were obtained at Zumbro River at Zumbro Falls, Minn., and Root River near Houston, Minn. These stations were operated in cooperation with the Minnesota Department of Natural Resources, Division of Water, Soils and Minerals.

Collection of monthly suspended-sediment samples was started on the U.S. Geological Survey, National Stream-Quality Accounting Network, on the Mississippi River at Winona, Minn.

The Hay River at Wheeler, Wisc., and the Chippewa River were established for weekly and storm-event, suspended-sediment discharge measurement sites. Periodic particle-size determinations were also made at these sites. Pine Creek near Ella, Wisc., was established for intermittent suspended-sediment measurements.

Measurements of suspended-sediment discharge were continued on an intermittent and storm-event basis on the Trempealeau River at Arcadia, Wisc.

Wisconsin Subregion

The measurements of suspended-sediment discharge on a periodic and storm-event basis were continued at the following stations:

Eau Claire River at Kelly, Wisc.
Spirit River at Spirit Falls
Big Eau Plaine River near Stratford
Little Plover River at Plover
Tenmile Creek near Nekoosa
Big Roche a Cri Creek near Adams
Kickapoo River at Gays Mills

Some samples were collected at the above sites for particle-size determination of bed and suspend material and a few samples for determination of chemical characteristics of transported material.

Intermittent and storm-event suspended sediment discharge samples, along with periodic bed-material and particle-size samples, were collected at North Fork Nederlo Creek near Gays Mills, South Fork Nederlo Creek near Gays Mills, and at two locations on the mainstem of Nederlo Creek near Gays Mills.

Daily measurements of suspended-sediment discharge and quarterly particle-size samples are being collected at three sites on the Kickapoo River: at Ontario, near Rockton, and at LaFarge. These are special project stations.

Big Eau Pleine River near Mosinee, Fenwood Creek near Bradly, and Freeman Creek near Halder were started as sites for determination of intermittent suspended-sediment discharge.

Mississippi - Maquoketa - Plum Subregion

The Geological Survey analyzed suspended-sediment samples collected by the Corps of Engineers at Mississippi River at East Dubuque, Illinois.

Measurements of suspended-sediment discharge were continued on an intermittent and storm-event basis on the Grant River at Burton, Wisc.

Rock Subregion

Measurements of suspended-sediment discharge were continued on an intermittent and storm-event basis on the Pecatonica River at Darlington, Wisc.

Measurements of suspended-sediment discharge were continued on an intermittent basis on the Turtle Creek near Clinton and on a storm-event basis on Willow Creek at Madison, Wisc. Particle-size data measurements were made periodically on both streams.

Weekly plus storm-event determinations of suspended-sediment discharge were started on Pheasant Branch Creek at Middleton, Wisc.

Des Moines Subregion

Collection of suspended-sediment samples on an intermittent basis was continued on the Des Moines River at Jackson, Minn., in cooperation with the Minnesota Department of Natural Resources, Division of Waters, Soils and Minerals.

Monthly samples for suspended-sediment concentration and sand-size break were collected at the NASQAN station, Des Moines River at St. Francisville, Mo.

The collection of daily suspended-sediment data was continued on Des Moines River near Saylorville, Iowa, in cooperation with the Iowa Geological Survey.

The Geological Survey analyzed suspended-sediment samples collected by the Corps of Engineers at:

Des Moines River near Stratford, Iowa
Des Moines River near Boone, Iowa
Raccoon River at Van Meter, Iowa
North River near Norwalk, Iowa
Middle River near Indianola, Iowa
South River near Ackworth, Iowa
Des Moines River near Tracy, Iowa
White Breast Creek near Dallas, Iowa

Mississippi - Iowa - Quad Cities Subregion

The collection of daily suspended-sediment samples continued in cooperation with the Iowa Geological Survey at Iowa River at Iowa City, Iowa, and Ralston Creek at Iowa City, Iowa.

Collection of daily suspended-sediment data was discontinued at:

Fourmile Creek near Lincoln, Iowa
Half Mile Creek near Gladbrook, Iowa
Fourmile Creek near Traer, Iowa

The Geological Survey analyzed suspended sediment samples collected by the Corps of Engineers at:

Wapsipinicon River at De Witt, Iowa
Iowa River at Marengo, Iowa
Iowa River at Coralville Dam, Iowa
Mississippi River at Burlington, Iowa

Intermittent suspended-sediments were collected at Cedar River near Austin, Minn., in cooperation with the Minnesota Department of Natural Resources, Division of Waters, Soils and Minerals.

Mississippi - Salt - Quincy Subregion

The Geological Survey analyzed suspended-sediment samples collected by the Corps of Engineers at:

Mississippi River at Hannibal, Missouri
Hadley Creek at Kinderhook, Illinois
Bay Creek at Nebo, Illinois

Upper Illinois Subregion

Measurements of suspended-sediment discharge were continued on an intermittent basis on the Fox River at Waukesha.

Miscellaneous determinations of suspended-sediment discharge were made at 20 additional sites throughout the State.

An expanded statewide sediment-sampling network was put into operation, and the sampling frequency was increased to fulfill our responsibility to the cooperators.

Intermittent suspended-sediment samples were collected at approximately monthly intervals at Iroquois River near Foresman, Indiana, in cooperation with the State of Indiana.

Lower Illinois Subregion

Two sediment stations in operation since December 1971 and one recently established were operated in cooperation with the Metropolitan Sanitary District of Greater Chicago to record changes in water quality and sediment transport during reclamation of surface coal mines. The operation involves extensive landscaping and the application of digested sludge. Sediment samples were collected five times weekly or more often to provide data on particle size, concentration, and total load. Water temperatures and specific conductivity are monitored also. The stations are:

Big Creek at St. David, Ill.
Big Creek near Bryant, Ill.
Slug Run near Bryant, Ill.

Mississippi - Kaskaskia - St. Louis Subregion

Monthly samples for suspended-sediment concentration and sand-size break were collected at the NASQAN stations, Missouri River at Hermann, Mo., Mississippi River below Alton, Ill., and Mississippi River at Thebes, Ill.

Operation of the sediment station on the main stem Mississippi River at St. Louis, Mo., was continued during 1974 in cooperation with the Corps of Engineers, St. Louis District.

SOIL CONSERVATION SERVICE

1. Studies of sediment damages and determinations of sediment yield were made in the following watersheds:

a. Public Law 566

Major Drainage	Watershed	Stream	County(s)	State(s)
Minnesota River	Tyler Creek	Tyler Creek	Lincoln, Lyon Pipestone	Minnesota
Rock River	Pheasant Br.	Pheasant Br.	Dane	Wisconsin
Fox River	Indian Creek-Van Buren	Indian Creek	Van Buren Clarke	Iowa Missouri

b. River Basin Investigations

Major Basin	Basin Reported	State
Minnesota River	So. Minnesota River	Minnesota
Wisconsin River	Wisconsin River	Wisconsin

c. Resource Conservation and Development

RC&D Project	Name of Project	County	State
Lumberjack	Pleasant Lake	Shawano	Wisconsin

2. Reservoir Sedimentation Surveys

a. A sedimentation survey made in 1971 but not reported previously is as follows:

Upper Mississippi, Crooked Creek, Houston County, Minnesota

Reservoir	Date of Survey	Location Sec.	Twp.	Rge.	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/Yr (Ac-Ft/Sq Mi)	Capacity Loss (Pct/Yr)
Crooked Creek R-2	5/71	15	102N	5W	3.18	221.2	5	.56	0.8
Richland County, Wisconsin:									
Jerome Durst	1/74	28	11N	1W	.12	5.8	39.8	.42	0.9

b. Sediment Evaluation Studies - Reservoirs Monumented

Major Drainage	Watershed	Reservoir	County(s)	State(s)
Fabius River	Bear Creek	A-2	Scotland	Missouri
Mississippi R.	Durgens Cr.	7	Lewis	Missouri
Wyacondah R.	Big Wyacondah	27-1	Davis	Iowa
Skunk River	Trib. Skunk R.	Diamond Lake	Poweshiek	Iowa

LOWER MISSISSIPPI REGION

CORPS OF ENGINEERS

Lower Mississippi Valley Division

St. Louis District

Reservoirs Sedimentation Surveys - Sediment and retrogression ranges at both Rend Lake and Lake Shelbyville were surveyed in the spring of 1974. Reports of both resurveys will be prepared in calendar year 1975. A second resurvey of Carlyle Lake is planned for calendar year 1975.

Vicksburg District

In connection with potamology investigations, there are approximately 62 sediment ranges on the Mississippi River from which bed and suspended sediment samples are being taken intermittently each year. In addition to these ranges, there are three ranges located on the Mississippi River at Vicksburg, Mississippi; Arkansas City, Arkansas; and Natchez, Mississippi, where both bed samples and suspended sediment measurements are taken weekly. These data have been placed on computer cards and will eventually be permanently stored on magnetic tape.

New Orleans District

Sediment Load Measurements

a. Suspended sediment and bed material sampling was continued at the ranges located on the Mississippi River at Tarbert Landing, Miss.; on the Red River at Alexandria. La.; and on the Atchafalaya River at Simmesport, La., with the frequency of sampling for these ranges being increased to every other time a discharge measurement is made. These frequencies resulted in samples taken every other day during February, March, April, and May at Tarbert Landing and Simmesport, and once per week in the remaining months. At Alexandria sampling averaged twice per month. Suspended sediment sampling was discontinued at the ranges located on the Mississippi River at Coochie. La., and in the Old River Inflow Channel near Knox Landing, La. A sampling range to replace the one at Coochie will be selected.

b. Suspended sediment and bed material sampling was also continued at Old River Outflow Channel near Knox Landing, La., and on the Red River above the Old River Outflow Channel with the frequency of sampling for these ranges being increased to each time a discharge measurement is made. This frequency yielded four samples per month during April and May, three samples per month during January, February, March, and June and two samples per month for the remaining months.

c. The two other ranges, where suspended sediment and bed material sampling was conducted, were on the Red River at Fulton, Arkansas, and at Shreveport, La. Samples were intermittently taken at Fulton and one or two per month at Shreveport.

d. Suspended sediment sampling was conducted at Wax Lake Outlet at Calumet, La.; on the Lower Atchafalaya River at Morgan City; and on the Sulphur River near Naples, Texas and Texarkana, Texas. There was an average of four samples per month during February, March, and April at Calumet and Morgan City and intermittent at these ranges for the remaining months. The two ranges on the Sulphur River were taken intermittently throughout the year.

e. Daily suspended sediment samples were taken with a trap sampler on the Red River at Colfax. La.; and daily during May, June, and July at Wax Lake Outlet near Calument, La., and on the Lower Atchafalaya River at Morgan City. Daily samples were also taken at The Jump at Venice, La., during May. Bed material samples were taken intermittently at selected ranges within the Atchafalaya Basin and at selected ranges on the Mississippi River and in the passes.

f. Suspended sediment samples were taken with U.S. P-46 samplers fitted with U.S. P-61 intake heads. Bed material samples were taken with a BM-54 sampler or a drag bucket type sampler. Daily suspended sediment samples were taken with a trap type sampler.

g. Computerized methods of determining daily and observed sediment loads are virtually complete. Back data is presently being rerun in an effort to get all sediment records into the same format.

Office Investigations

a. A computer program is now operation for analyzing laboratory data for a suspended sediment observation. The major improvement over the previous method is that the suspended sediment samples are now being discharged weighted, and it is no longer necessary for each vertical within the cross section to have the same number of samples. The resulting computer printout yields a breakdown for each suspended sediment sample taken; a cross section profile for coarse, fine and total suspended sediment; an analysis of the bottom withdrawal laboratory data; a summary of the bed material samples, and a summary of the concentrations and loads representing the entire observation. Another computer program has been written to utilize the suspended sediment data from the above computer output along with daily discharge data. This program develops a sediment rating curve based on the suspended sediment observations and uses this curve to come up with daily suspended sediment values for coarse, fine, and total loads. The output is in tabular form and yields the suspended sediment data for the entire water year.

b. A study of the placement of sampling verticals will be conducted in the future in order to better approximate equal elements of discharge with each sample. The cross section profiles yielded by the newly developed computer program will be used to facilitate this study.

c. The effects of shoaling at the confluence of the navigation locks and dams is of major concern of the Red River Waterway project. A meeting with the Southwest Division office in Dallas was conducted in an effort to get acquainted with their existing shoaling problems on the Arkansas River Waterway. This problem will be investigated as part of a model study conducted by The Waterway Experiment Station.

d. This District, in conjunction with the Hydrologic Engineering Center is developing a digital flow-sediment model of the Atchafalaya Basin. This model uses the computer program "Scour and Deposition in Rivers and Reservoirs" written by W. A. Thomas of the Hydrologic Engineering Center. It will be used to predict future sedimentation patterns and to evaluate the effects of various projects in the basin. Initial calibration of the model was completed in 1974. Efforts are underway to develop a similar model for the Mississippi River.

New Equipment. The use of color infrared imagery taken by NASA/JSC Earth Resources Laboratory, Mississippi Test Facility, Bay St. Louis, Mississippi, is still being studies in an effort to correlate suspended sediment with remote sensing.

Field Survey Techniques

a. In deep draft navigation channels surveillance was maintained by periodic fathometer profiling to inspect shoaling rates.

b. Estuary channels with evidence of heavy shoaling were surveyed several times a year while inland waterways experiencing slight to moderate shoaling were surveyed periodically. Dredging schedules were developed based on these surveys.

FOREST SERVICE

Ouachita National Forest - Under the Forest Water Quality Monitoring Program, 150 streams were monitored primarily for turbidity. All samples fell within acceptable parameters as outlined in regulations of the Department of Pollution Control and Ecology.

National Forests in Mississippi - Monitored water for turbidity and conductivity from 20 stations draining timber sale areas to help assess impact of timber sale and reforestation activities. Data from one area appears to indicate no measurable adverse impact on water quality. Data from other areas not yet of sufficient duration to be conclusive.

GEOLOGICAL SURVEY

Mississippi - Hatchie Subregion

Monthly suspended-sediment samples were collected at Obion River at Obion, Tennessee, as part of the National Stream-Quality Accounting Network.

Collection of sediment data was continued at Mississippi River at Memphis, Tenn., as part of the National Stream-Quality Accounting Network.

Subregion

Sediment data were collected monthly at St. Francis River at Parkin, Ark., as part of the National Stream-Quality Accounting Network.

One monthly station, White River at Clarendon, Ark., was changed to National Stream-Quality Accounting Network, and collection of sediment data was started in October 1974.

Mississippi - Yazoo Subregion

Suspended-sediment data were collected on May 15, 1974, at 16 sites in the Greenwood, Mississippi, area as part of an intensive quality-of-water survey made May 14-16 in cooperation with the Corps of Engineers. This survey was made to provide the Corps with quality-of-water data so they could better evaluate the impact of Corps projects on the streams in the Greenwood area. These data are presented in the annual publication of Water Resources Data for Mississippi.

Suspended-sediment data were collected monthly at Yazoo River at Greenwood, Miss., as part of the National Stream-Quality Accounting Network to meet many of demands for information by agencies and groups involved in planning and management of water resources.

One monthly station, Mississippi River near Arkansas City, Ark., was started in November 1974, and sediment data were collected as part of the National Stream-Quality Accounting Network.

Ouachita Subregion

Monthly sampling of suspended sediment continued at the hydrologic benchmark station on Big Creek at Pollock, Louisiana.

Monthly sampling of suspended sediment was begun on Ouachita River at Columbia, Louisiana, as part of the federal network on National Water-Quality Accounting.

One monthly station, Ouachita River at Camden, Ark., was started in October 1974, and sediment data were collected as part of the National Stream-Quality Accounting Network.

Mississippi - Tensas Subregion

Monthly sampling of suspended sediment was begun on Tensas River at Tendel, Louisiana, as part of the federal network on National Water-Quality Accounting.

Mississippi - Big Block Subregion

Suspended-sediment data were collected monthly at three sites:

Mississippi River at Vicksburg, Miss.
Big Block River near Borina
Homochitto River at Rosetta

as part of the National Stream-Quality Accounting Network.

Mississippi - Lake Maurepas Subregion

Monthly sampling of suspended sediment was continued on the Amite River at 4-H Camp nr Denham Springs, Louisiana, as part of the federal network on National Water-Quality Accounting.

The U.S. Army Corps of Engineers, New Orleans District, continued to collect suspended sediment samples and bed material samples from major rivers and project areas. The U.S. Geological Survey continued to analyze these samples in its Baton Rouge Laboratory. Sampling frequencies varied at these stations from monthly to twice a week. During periods of high flow, sampling frequencies are increased. These stations are listed below.

Mississippi River at Coochie, La.
Mississippi River at Tarbert Landing, La.
Old River Outflow nr Knox Landing, La.
Old River Inflow nr Knox Landing, La.
Atchafalaya River at Simmesport, La.
Red River above Old River Outflow, La.

Louisiana Coastal Subregion

Monthly sampling of suspended sediment was begun on Bayou Teche at Keystone Lock and Dam below St. Martinville, Louisiana, and Calcasieu River below Lake Charles, Louisiana, as part of the federal network on National Water-Quality Accounting.

Suspended sediment samples were collected twice a week on the Lower Atchafalaya River at Morgan City, Louisiana, and Wax Lake Outlet at Calumet, Louisiana, during the months of February, March and April.

This work was done in cooperation with the U.S. Army Corps of Engineers, New Orleans District.

Monthly sampling of suspended sediment continued on Bayou Lafourche at Donaldsonville, Louisiana, in cooperation with the Louisiana Department of Public Works.

Mississippi Delta Subregion

Monthly sampling of suspended sediment was continued above and below the dam at Thibodeaux, Louisiana, in cooperation with the Louisiana Department of Public Works.

A one year study was begun to collect sediment data in the Lake Verret watershed. The study area is mainly flatlands and wetlands and all of the bayous are affected by wind and tides. The major land use in the area is sugar cane crops. Four of the five observation sites are equipped with PS-69 samplers. This study is being done in cooperation with the Soil Conservation Service. The five observation sites are: Bayou Sigur nr White Castle, Louisiana, Bayou Sigur southeast of White Castle, Grand Bayou near Belle Rose, Louisiana, Grand Bayou Tributary near Belle Rose, Louisiana, and Muddy Bayou below White Castle, Louisiana.

SOIL CONSERVATION SERVICE

1. Studies of sediment damages and determinations of sediment yields were made for work plans in the following watersheds:

   a. Public Law-566

Major Drainage	Watershed	Stream	County(s)	State(s)
Atchafalaya River	Lake Verret	-	Assumption Iberville Ascension	La.

SOURIS-RED-RAINY REGION

FOREST SERVICE

The Superior National Forest has sedimentation (suspended sediment or turbidity) monitoring programs designed to quantify the effects of road construction, timber harvest, recreational development or mining activities.

GEOLOGICAL SURVEY

Souris Subregion

Monthly measurements of suspended sediment were continued at Souris River near Foxholm, N. Dak. in connection with a pre-impoundment water-quality study in cooperation with the Corps of Engineers.

Monthly measurements of suspended sediment were started in April at the Souris River near Sherwood, N. Dak., and in October daily sampling was started at this site as part of the Waterways Treaty program with the U.S. Department of State.

Monthly measurements of suspended sediment were started in October at the Souris River near Westhope, N. Dak. as part of the National Stream-Quality Accounting Network.

Red Subregion

Sediment investigations continued for Pembina River at Walhalla, Pembina River near Vang, and Little Pembina River near Walhala, N. Dak., as part of the Waterways Treaty program of the U.S. Department of State.

Miscellaneous measurements of suspended sediment were continued at Beaver Creek near Finley, N. Dak. as part of the National Hydrologic Benchmark Network program.

Monthly measurements of suspended sediment were continued at Red River of the North below Fargo, N. Dak. and Red River of the North at Oslo, Minn. as part of the National Water-Quality Accounting Network.

Monthly measurements of sediment were started at the Forest River at Minto, N. Dak. in July as part of a cooperative agreement with the North Dakota State Water Commission.

The intermittent collection of suspended-sediment samples was continued at Buffalo River near Dilworth, Minn., and Wild Rice River at Twin Valley, Minn., in cooperation with the Minnesota Department of Natural Resources, Division of Waters, Soils and Minerals.

Collection of suspended-sediment samples, on a monthly basis, was started at U.S. Geological Survey, National Stream-Quality Accounting Network station on the Roseau River near Caribou, Minn.

Rainy Subregion

Suspended-sediment samples on monthly and storm event basis, were collected at Little Fork River at Littlefork, Minn., in cooperation with the Minnesota Department of Natural Resources, Division of Waters, Soils and Minerals.

Monthly suspended-sediment sampling was started at U.S. Geological Survey, National Stream-Quality Accounting Network station on the Big Fork River at Big Falls, Minn.

SOIL CONSERVATION SERVICE

1. Studies of sediment damage and determinations of sediment yield were made in the following watersheds:

   a. Public Law 566

Major Drainage	Watershed	Stream	County(s)	State(s)
Red River	Norman-Polk	J.D. & Co. Ditches	Norman Polk	Minnesota

2. Sedimentation Surveys

   Reservoir sedimentation surveys were made in Marshall County, South Dakota, Red River major drainage:

Reservoir	Date of Survey	Location Sec.	Twp.	Rge.	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/Yr (Ac-Ft/SqMi)	Capacity Loss (Pct/Yr)
Wild Rice WR-3	9/73	32	128N	56W	17.0 (5.95)*	855.2	11.6	0.16	0.8
Wild Rice	9/73	7	127N	56W	5.16 (2.35)*	280.0	5.6	0.20	2.0

*Net sediment contributing area shown in parenthesis.

MISSOURI BASIN REGION

BUREAU OF RECLAMATION

A technical review and advisory board was established in March 1974 under the auspices of the Bureau of Reclamation to provide technical advice on the effectiveness of the Lower Yellowstone Riverbank Stabilization Program. Members of the board were selected from various Federal agencies and a university because of their expertise on riverbank erosion and stabilization. The group made a field inspection of the area in May 1974. A report, "Lower Yellowstone Riverbank Stabilization Program," August 1974, was published. It summarizes observations made during the inspection, presents pertinent background hydrologic and hydraulic information, and makes recommendations on adequacy of works completed, effects of the stabilization program on the river regime, and techniques for future bank stabilization installations.

CORPS OF ENGINEERS

Missouri River Division

Omaha District

Sediment Load Measurements. The measurement and computation of suspended sediment load records was continued at twenty-one stations throughout the year while operation at three additional stations was discontinued at the end of the 1974 water year. The discontinued stations included the Boyer River near Deloit, Iowa; the East Fork of the Boyer River near Missouri Valley, Iowa; and the Little Papillion Creek near Irvington, Nebraska. Currently in operation are six Missouri River main stem stations, twelve major tributary stations and three minor tributary stations. The U.S. Geological Survey operates nineteen stations under a cooperative stream gaging program including computation and publication of sediment load records. Omaha District personnel continued the operation of PS-69 automatic samplers at two minor tributary stations in the Omaha metropolitan area. Suspended sediment load computations for CE operated stations are complete through the 1973 W.Y.

Reservoir Investigation.

a. Garrison Project. Completed hydrographic surveys in 5 stabilized channel sections of the degradation reach to document channel changes and evaluate effectiveness of structure design.

b. Fort Randall Project. Measured a steady-state water surface profile through the degradation reach to establish the degree of rating curve shifts. Also measured bankline erosion at all degradation ranges to supplement aerial photography information in assessing bank erosion changes and rates.

c. Gavins Point Project. Completed a degradation survey of the reach downstream to Ponca, Nebraska, including measurement of a water surface profile and sampling of the bed material. This hydrographic survey work was accomplished by A.E. contract. Routine tailrace soundings downstream from the powerhouse apron indicated an enlarged scour area since the last survey in 1970. The scour now extends across the entire width of the apron and varies from 5 to 10 feet in downstream length and from 1.5 to 3.5 feet in depth. A more precise sounding survey is scheduled for 1975 C.Y.

d. Tributary Reservoirs. A reservoir sedimentation survey was completed at the Cherry Creek Project near Denver, Colorado; the Cold Brook and Cottonwood Springs Projects near Hot Springs, South Dakota; and the Branched Oak Project near Raymond, Nebraska. Field observations ranged from a complete to a partial survey of aggradation ranges depending upon the history of pool fluctuations and time increment since the previous resurvey. The computation of a revised area-capacity table and sediment depletion rate was completed for the Cherry Creek project. Similar computations for the other projects are in progress.

Special Studies. Special sedimentation activities or investigations conducted during the year included:

a. Completion of an inter-agency technical paper on land conservation and sedimentation for the Platte River Level "B" Framework Study of the Nebraska State Water Plan.

b. Preparation of sedimentation sections for site selection reports, specific design memorandums and recreational master plans for the Papillion Creek flood control projects near Omaha, Nebraska.

c. Initiation of Phase II of the Omaha, Nebraska - Council Bluffs, Iowa Metropolitan Study. This phase includes an assessment of non-point source pollution loadings, such as the organic or inorganic sediments and debris contributed by runoff from various metropolitan land use areas.

d. Preparation of a technical report assessing the relationship of prevailing stages on Lake Sakakawea and the Missouri River to groundwater levels underlying the Buford-Trenton Irrigation District lands near the mouth of the Yellowstone River. This study included an assessment of documented trends of aggraded backwater profiles and adjacent floodplain groundwater variations.

e. Completed an ultimate shoreline erosion analysis for an additional 200 miles of shoreline on Lake Sakakawea. This information is needed to establish the final take line boundaries for the project. The final analysis segment covering 300 shoreline miles is scheduled for completion in 1975.

f. Initiated a study to determine the technical feasibility of adding more units to the existing hydropower capability of the Missouri River main stem system of reservoirs. The evaluation will include the need for reregulation structures to avoid bank erosion or degradation problems produced by increased fluctuations.

Kansas City District

Sediment Load Measurements. Thirty-six suspended sediment sampling stations were continued in operation on the Missouri River and its tributary streams. Two of these sampling stations were closed at the end of September 1974. One new station was started at Lecompton, Kansas, on the Kansas River on 1 April 1974. Loads have been computed for all stations, except new locations, through water year 1972.

Lake Sedimentation Investigations. The initial sedimentation survey has been completed for Tuttle Creek Lake and the report is in progress. Pomme de Terre initial sedimentation survey has been completed and a report will be prepared in the near future. Normal data collection methods were utilized in performing these surveys: (1) soundings were made along specified ranges, (2) taking bed core samples, (3) making density measurements, and (4) taking bed samples.

GEOLOGICAL SURVEY

Special Studies

Techniques are being investigated for estimating sediment yields at unsampled sites on streams having drainage areas too large for practical application of the soil-loss equations. Data on sediment yields and physical and climatic characteristics of the drainage basins are being analyzed for this study.

Sediment samples were obtained during a period of high flow from the Platte River at North Bend, Elkhorn River at Waterloo, Logan Creek at Pender, and Big Blue River at Crete, Nebr., in cooperation with the Nebraska Natural Resources Commission to determine relative concentrations of minor elements, nutrients, and pesticides in the water and in the sediments.

All data through 1973 on sediment in streams published by the Corps of Engineers and the U.S. Geological Survey, and on reservoir sedimentation surveys published by the Soil Conservation Service for streams in, or bordering, Iowa are being compiled in a report to be published by the U.S. Geological Survey. The work is being done in cooperation with the Iowa Geological Survey.

Missouri Headwaters Subregion

Daily sampling of suspended-sediment was discontinued in September at Beaverhead River near Twin Bridges and Jefferson River near Twin Bridges, Montana.

Missouri - Marias Subregion

Daily measurement of suspended-sediment was continued at Muddy Creek near Vaughn and Muddy Creek at Vaughn, Mont., under the Federal Program. Monthly measurement of suspended-sediment at Missouri River near Toston, Mont., was continued under the National Stream-Quality Accounting Network Program.

Missouri - Mussleshell Subregion

Daily suspended sediment and periodic bed sampling continued at Missouri River near Landusky, Mont., in cooperation with the U.S. Army Corps of Engineers. Monthly suspended-sediment sampling funded by the National Stream-Quality Accounting Network program was begun in October at Missouri River at Virgelle, Musselshell River at Mosby and Missouri River below Fort Peck Dam, Montana.

Milk Subregion

The monthly collection of suspended-sediment samples was continued at Milk River at Hashua, Mont., under that National Stream-Quality Accounting Network program.

Missouri - Poplar Subregion

Daily suspended-sediment and periodic bed sampling was continued at Missouri River near Culbertson, Mont., in cooperation with the U.S. Army Corps of Engineers. Monthly suspended-sediment sampling was initiated at Redwater River at Circle, Mont., under the Federal Program.

Upper Yellowstone Subregion

Sediment data were collected from March to October at two sites on a daily basis for the Bureau of Land Management for the purpose of monitoring sediment being contributed to the Clarks Fork Yellowstone River.

Periodic sampling for suspended-sediment was continued at Silver Tip Creek near Belfry, Mont., and funded under the Federal Program.

Bighorn Subregion

Sediment data are being collected at two sites on a daily basis, one for the Bureau of Land Management for the purpose of monitoring sediment yield from a sparsely vegetated area by an intermittent stream and one as a part of the Missouri River Basin Program and is to monitor the sediment discharge from the wild horse range and to determine changes, if any, caused by heavy grazing. Sediment data are also being collected at three sites on a monthly basis as a part of a program with the Wyoming State Engineer to obtain basic data of suspended-sediment discharge, channel bed material composition, and related hydraulic data to determine the relationship between water discharge and sediment discharge. Sediment data are being collected at one site on a quarterly basis as a part of the Missouri River Basin Program to monitor sediment discharge into Bighorn Lake from the Bighorn River upstream from the Shoshone River. Sediment data are collected on an infrequent basis (at the request of the cooperator) at one site for the Bureau of Reclamation, Upper Missouri Region, to determine the effect of sediment concentration on fish life during sluicing operation through a small diversion dam.

Daily measurements of suspended-sediment continued at Little Bighorn River near Hardin, Mont., under the Federal Program. Monthly measurement of suspended-sediment was continued at Beauvais Creek near St. Xavier, Mont., under the Hydrologic Benchmark program. Monthly suspended-sediment sampling was initiated in October at Bighorn River at Bighorn, Mont., under the National Stream-Quality Accounting Network program.

Tongue - Powder Subregion

Sediment data are being collected at one site on a monthly basis as a part of a program with the Wyoming State Engineer to obtain basic data of suspended-sediment discharge, channel bed material, and related hydraulic data to determine the relationship between water discharge and sediment discharge.

Sediment data are being collected at two sites on a daily basis as a part of Federal Energy Program to continue monitoring sediment discharge from the Powder River Basin, particularly with regard to potential impoundment caused by dam construction near Moorhead, Montana. Sediment data are also being collected at one site on a monthly basis as a part of a program with the Wyoming State Engineer which is described in the preceding paragraph.

Daily measurement of suspended sediment was begun in October at Tongue River below Brandenberg Bridge near Ashland, Powder River at Moorhead, and Powder River at Locate, Montana. All were funded under the Federal Program. Suspended-sediment sampling at the stations listed below was started in October and done in cooperation with the Bureau of Land Management. Sampling frequencies range from monthly on perennial streams to periodic on intermittent streams.

Deer Creek near Decker, Mont.
Fourmile Creek near Birney, Mont.
Bull Creek near Birney, Mont.
Hanging Woman Creek near Birney, Mont.
Cook Creek near Birney, Mont.
Bear Creek at Otter, Mont.
Threemile Creek near Ashland, Mont.
Otter Creek at Ashland, Mont.

Beaver Creek near Ashland, Mont.
Liscom Creek near Ashland, Mont.
Foster Creek near Volborg, Mont.

Monthly suspended-sediment sampling was begun at Tongue River at Miles City, Mont., in October under the National Stream-Quality Accounting Network program.

Lower Yellowstone Subregion

Daily suspended-sediment and periodic bed sampling was continued at Yellowstone River near Sidney, Mont., in cooperation with the U.S. Army Corps of Engineers. Under that National Stream-Quality Accounting Network program, monthly sampling for suspended-sediment was initiated in October at Yellowstone River at Billings, Mont. Monthly and periodic suspended-sediment sampling respectively were begun in October at Sarpy Creek near Hysham and at Green Leaf Creek near Colstrip, Mont. The stations listed below were started in October and funded under the Federal Program. Sampling frequencies are dependent on flow conditions and range from monthly to periodic.

East Fork Armells Creek near Colstrip, Mont.
West Fork Armells Creek near Forsyth, Mont.
Armells Creek near Forsyth, Mont.
Rosebud Creek near Colstrip, Mont.
Rosebud Creek above Pony Creek near Colstrip, Mont.
Rosebud Creek near Rosebud, Mont.
Rosebud Creek at mouth near Rosebud, Mont.

Missouri - Little Missouri Subregion

Miscellaneous measurements of sediment were continued at Bear Den Creek near Mandaree, N. Dak. as part of the National Hydrologic Benchmark Network program.

Operation of a daily sediment station at Little Missouri River near Watford City, N. Dak. was continued as part of a cooperative program with the Corps of Engineers.

Cheyenne Subregion

Monthly suspended-sediment samples were collected at Castle Creek above Deerfield Reservoir, near Hill City, S. Dak., as part of the hydrologic benchmark program.

Daily sediment data were collected on the Cheyenne River at Cherry Creek, S. Dak., in cooperation with the Corps of Engineers.

PS-69 pumping sampler in use.

Sediment data are being collected at one site on a monthly basis as part of a program with the Wyoming State Engineer.

Monthly suspended-sediment samples were collected at Belle Fourche River near Elm Springs, S. Dak., as part of the National Stream-Quality Accounting Network program.

Missouri - Oahe Subregion

Operation of daily sediment stations at Missouri River at Bismarck, Heart River at Mandan and Cannonball River at Breien, N. Dak. were continued as part of a cooperative program with the Corps of Engineers.

Monthly measurements of sediment were started in October at Brush Creek near Beulah, Coal Bank Creek near Havelock, and Buffalo Creek near Gascoyne, N. Dak. as part of a program with the Bureau of Land Management to collect hydrologic data in the lignite coal regions.

Monthly measurements of sediment were started at Knife River at Hazen, N. Dak. as part of the National Water-Quality Accounting Network.

Operation of daily sediment stations was continued in cooperation with the Corps of Engineers at the following:

Grand River at Little Eagle, S. Dak.
  PS-69 pumping sampler in use
Moreau River near Whitehorse, S. Dak.
  PS-69 pumping sampler installed 9/10/74

Missouri - White Subregion

Daily measurements of suspended-sediment in cooperation with the Corps of Engineers were continued on the Bad River near Fort Pierre and the White River near Oacoma, S. Dak. A PS-69 pumping sampler was installed October 22, 1974.

Monthly suspended-sediment samples were collected at Missouri River at Pierre and Missouri River below Fort Randall Dam, S. Dakota, as part of the National Stream-Quality Accounting Network program.

Niobrara Subregion

Measurements of daily sediment transport, made in cooperation with the Department of Army, Corps of Engineers, of the Niobrara River near Verdel, Nebr. Continued unchanged.

James Subregion

Monthly suspended-sediment samples were collected at James River near Scotland, S. Dakota, as part of the National Stream-Quality Accounting Network program.

Missouri - Big Sioux Subregion

Daily samples of suspended sediment were collected on the Big Sioux River near Dell Rapids, S. Dak., under the Missouri River basin program.

Monthly suspended-sediment samples were collected at Big Sioux River at Akron, Iowa, as part of the National Stream-Quality Accounting Network program.

North Platte Subregion

Monthly measurements of suspended-sediment carried by the North Platte River near Lisco, Nebr., was started. Quarterly measurements of pesticides in the water and in the sediment continued.

Sediment data were collected at one site on a daily basis for the Wyoming Department of Economic Planning and Development to monitor sediment discharge from an iron ore mine operated by the U.S. Steel company. Sediment data were collected at seven sites on a monthly basis as part of a program with the Wyoming State Engineer. Sediment data were collected at two sites on a monthly basis for the Bureau of Land Management to monitor sediment yield from areas containing coal strip mines and at one site on a monthly basis from April through September for the Bureau of Land Management to monitor sediment contribution to the North Platte. River. Sediment data were collected at one site on a monthly basis as part of the Federal Hydrologic Benchmark Program, and sediment data were collected at one site on a quarterly basis as a part of the Missouri River Basin Program to monitor sediment transport in the North Platte River in connection with the Kendrick Project.

South Platte Subregion

Sedimentation data were collected daily with an automatic pumping sampler at Woman Creek at Rocky Flats Plant, Colo. This activity is a part of the hydrologic investigation at the AEC Rocky Flats Plant near Denver, Colorado, and is in cooperation with the Atomic Energy Commission.

Sedimentation data were collected monthly at South Platte River at Julesburg, Colo. as a part of the National Stream-Quality Accounting Network (NASQAN). This activity is supported by federal funds.

Elkorn Subregion

Intermittent measurements of suspended-sediment and bed material restricted to periods of relatively high flow continued for the Elkhorn River at Neligh, Elkhorn River near Norfolk, Logan Creek at Pender, and Rock Creek near Ceresco, Nebr. A few miscellaneous measurements were made of sdeiment in transport for Mill Creek at

Louisville, Nebr., and for Cedar Creek near Louisville, Nebr., in cooperation with the Lower Platte South Natural Resources District.

Investigations of daily sediment transported by Salt Creek at Greenwood, Nebr., and by Platte River at Louisville, Nebr., made in cooperation with the Department of the Army, U.S. Corps of Engineers, continued.

Small Missouri River Tributaries

A few miscellaneous measurements of suspended sediment were made for Weeping Water Creek at Weeping Water, Nebr., and South Branch Weeping Water Creek near Union, Nebr., and Weeping Water Creek near Untion, Nebr.

Daily collection of suspended-sediment samples and periodic collection of bed-material samples were continued in cooperation with the Corps of Engineers at:

Missouri River at Sioux City, Iowa
Willow Creek near Logan, Iowa
Missouri River at Omaha, Nebraska
Missouri River at Nebraska City, Nebraska

Missouri - Nemaha - Nodaway Subregion

Monthly sampling for suspended-sediment and sand-size break began at the NASQAN station, Missouri River at St. Joseph, Mo.

Republican Subregion

Suspended-sediment measurements for Stinking Water Creek near Palisade, Nebr., were discontinued September 1974. Similar measurements for Frenchman River near Palisade, Nebr., made in cooperation with the U.S. Bureau of Reclamation, were limited to periods of high releases from Enders Reservoir.

Monthly collection of suspended-sediment data was continued at Beaver Creek at Cedar Bluffs, Kansas, in cooperation with the Kansas Water Resources Board.

Smoky Hill Subregion

Daily sampling of suspended-sediment continued at Smoky Hill River at Enterprise, Kansas, and monthly sampling continued at Saline River at Tescott, Kansas, and Solomon River at Niles, Kansas, in cooperation with the Kansas Water Resources Board.

Kansas Subregion

Daily sampling of suspended-sediment continued at Kansas River at Wamego, Kansas, in cooperation with the Kansas Water Resources Board.

Grand - Chariton Subregion

Intermittent samples of suspended-sediment were collected at Elk Creek near Decatur City, Iowa, as part of the Hydrologic Benchmark Program.

Monthly sampling for suspended-sediment and sand-size break began at the NASQAN station Grand River near Sumner, Mo.

Osage - Gasconade Subregion

Monthly sampling for suspended-sediment and sand-size break began at the NASQAN station, Osage River near St. Thomas, Mo.

SOIL CONSERVATION SERVICE

1. Studies of sediment damages and determinations of sediment yield were made in the following watersheds:

a. Public Law 566

Major Drainage	Watershed	Stream	County(s)	State(s)
Floyd River	Bacon Creek	direct trib.	Woodbury Plymouth	Iowa
Elkhorn River	Maple Creek	Maple Creek	Dodge, Colfax	Nebraska
Marais des Cygnes	Middle Creek	Middle Creek	Miami, Linn	Kansas
Delaware River	Elk Creek	Elk Creek	Jackson, Nemaha	Kansas
Hundred and Two R.	Mozingo	Mozingo Cr.	Nodaway	Missouri
North Platte River	Douglas	Antelope Cr.	Converse	Wyoming

b. Public Law 534

Major Drainage	Watershed	Stream	County(s)	State(s)
Little Sioux R.	Dutch Hollow	Maple River	Woodbury	Iowa

c. Resource Conservation and Development - Sediment yield estimates were made on the following watershed:

Name of Project	County	State(s)
Schadegg-Newell	Scotts Bluff	Nebraska
Jackson-Paisley-Robinson	Garden	Nebraska
Spring Branch Development Res.	Crook	Wyoming

d. Public Law-46 - Sediment yield estimates were made in the following watersheds:

Major Drainage	Watershed	Stream	County(s)	State(s)
Big Horn River	Shell Creek	Bear Creek	Big Horn	Wyoming
Big Horn River	Meeteetse Ck.	Snyder Basin	Park	Wyoming
Big Horn River	North Fork Shoshone	Rattlesnake	Park	Wyoming
North Platte River	Laramie River	Lone Tree Cr.	Albany	Wyoming
North Platte River	Laramie River	Willow Creek	Albany	Wyoming
North Platte River	North Laramie River	Duck Creek	Albany	Wyoming

e. River Basin Investigations

Major Basin	Basin Reported	State(s)
Platte River	Upper Platte	Nebraska
	Lower Platte	Nebraska
Missouri River	Blackwater-Lamine	Missouri
Blackwater River	South Fork	Missouri

f. Sediment Evaluation Studies - Reservoirs Monumented, other

Major Drainage	Watershed	Reservoir	County(s)	State(s)
Beaver Creek	Unnamed trib.	Willard Olson	Williams	North Dakota
Square Butte Cr.	Unnamed tribs.	Debris Basins (2)*	Oliver	North Dakota
Nodaway R.	Walters Creek	Site 18-2	Adams	Iowa
Big Sioux R.	Pioneer	Site M-1	Lyon	Iowa

*Two debris basins constructed below strip mine spoil banks.

2. Reservoir Sedimentation Surveys

Reservoir	Date of Survey	Location			Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/Yr (Ac-Ft/SqMi)	Capacity Loss (Pct/Yr)
		Sec.	Twp.	Rge.					
Mule Creek* R-1	1/74	1	71N	42W	0.8	103.4	18.3	1.7	1.7
Lake Dabinawa**	6/74	36	10	19	3.6	1,060	15.5	2.2	0.7

* Mills County, Iowa
**Jefferson County, Kansas

Reservoir sedimentation surveys in Douglas County, Colorado.

Reservoir	Date of Survey	Location			Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/Yr (Ac-Ft/SqMi)	Capacity Loss (Pct/Yr)
		Sec.	Twp.	Rge.					
B-1	4/26/74	14	6S	66W	2.26	-	-	-	-
P-1	4/23/74	14	6S	66W	0.68	-	-	-	-

Reservoir sedimentation survey in Weston County, Wyoming.

Reservoir	Date of Survey	Location			Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/Yr (Ac-Ft/SqMi)	Capacity Loss (Pct/Yr)
		Sec.	Twp.	Rge.					
Barrel	6/6/74	24	41N	66W	4.83	454.55	6.0	1.33	1.42

ARKANSAS-WHITE-RED REGION

BUREAU OF RECLAMATION

Field inspections were made of various areas in Oklahoma to study the sedimentation characteristics. The cross drainage area was inspected along the Bretch Diversion Canal that diverts from Bretch Diversion Dam on West Otter Creek in southwestern Oklahoma. The purpose of the inspection was to assess the scour potential at various canal siphon crossings. The drainage area above Cookietown damsite on Deep Red Creek was inspected for the purpose of assessing the sediment yield rate with the eventual objective of estimating the 100-year sediment inflow to the reservoir. The drainage basin above McGee Creek damsite on McGee Creek was also inspected for the same purpose as for the Cookietown damsite.

Additional sonic sounding runs and sediment sampling was done at Twin Lakes Reservoir. The data were used to aid in preparing lake bottom topography for the area in front of the pumped storage discharge channel and will help locate and analyze the fine rock flour known to exist near the discharge channel. The subbottom sonar equipment was also tested during this operation. Twin Lakes is near Buena Vista, Colorado.

CORPS OF ENGINEERS

Southwestern Division

Sedimentation activities of the Southwestern Division office for the year were as follows:

a. Southwestern Division Laboratory received approximately 4,500 suspended sediment samples for determination of percent sediment. There were 140 samples of bed material received to be tested for grain size distribution.

b. Design Memorandums were reviewed and approved for Big Hill Lake, Copan Lake, and Skiatook Lake.

c. Sediment reports for Abiquiu Dam, Canyon Lake, and Hords Creek Lake were reviewed and approved.

d. A Sedimentation Data Summary for Wister Lake was approved.

Albuquerque District

Sediment Load Measurements. Suspended sediment measurements were made at three stations in the vicinity of John Martin Reservoir. Selective measurements are made on the Arkansas and Purgatoire Rivers near Las Animas, Colorado, and daily measurements are made on the Arkansas River below John Martin Reservoir. These measurements are continued to supply data for sediment inflow and outflow computations at John Martin Reservoir.

Tulsa District

Sedimentation Surveys. The sedimentation resurveys initiated in 1973 at Council Grove and John Redmond Lakes were completed along with resurveys of Elk City, Marion, and Pat Mayse Lakes. All surveys were of the detailed range type and included both the sedimentation and degradation ranges. Bed material samples were obtained in conjunction with each survey.

Sediment Load Measurements. Seventy-three suspended sediment sampling stations were continued in operation on the Arkansas and Red Rivers and their tributaries. No stations were added or discontinued during the year.

Other Investigations

a. Sedimentation and degradation range design memorandums were completed for Skiatook and Big Hill Lakes.

b. Sediment volume computations and the Reservoir Sediment Data Summary for Wister Lake were completed. Sediment deposition for the 23-year period from 1949 to 1972 was minor and no future sediment problems are anticipated.

c. A reconnaissance survey of several key ranges on Fort Gibson Lake was accomplished. Results of this survey indicate sediment deposition has been minor and a detailed survey is not warranted at this time.

d. Monitoring sediment deposition in Keystone Lake near Cleveland, Oklahoma, was continued. A natural levee has developed adjacent to the main channel and has nearly isolated Cedar Creek Bay from the main body of the lake at normal pool level. A marina located in Cedar Creek Bay was moved further down in the lake in order to have adequate depth for boating.

e. Shoaling has continued on the McClellan-Kerr Arkansas River Navigation System in the vicinity of W. D. Mayo Lock and Dam. Frequent dredging has been required in this area since it was opened to navigation in 1970. A hydraulic model study to investigate means of reducing or eliminating this shoaling problem was initiated. Preliminary results of this study which is being conducted by the Waterways Experiment Station are expected during the summer of 1975 and the final results in 1976.

Little Rock District

Suspended Load Measurements. Suspended sediment measurements were made at 47 stations on the Arkansas River and its tributaries in connection with Arkansas River general studies and operation and maintenance of reservoirs and navigations projects in the basin.

FOREST SERVICE

Arkansas - Forest land in the St. Francis River Basin was sampled with approximately 300 plots for erosion and sediment, and preliminary results indicate that 46 percent of the sediment from forest land is caused by woodland grazing, 27 percent by logging roads, 14 percent by logging, 10 percent by skid trails, 2 percent by natural and 1 percent by fire.

Oklahoma - The forest land in the Upper Red River Basin has been sampled with approximately 350 plots for erosion and sediment data. Analysis is expected in FY 1976.

GEOLOGICAL SURVEY

Special Studies

Existing data are being used to evaluate areal variations of sediment yield in the Arkansas River basin of Kansas. Results of the cooperative project with the Kansas Water Resources Board are being prepared for publication.

In cooperation with the Kansas Water Resources Board, a study is in progress to relate the effect of sediment to the formation of meanders and pool-riffle sequences.

In cooperation with the Corps of Engineers, sediment data for flood runoff were collected at 22 sites throughout Oklahoma. Samples were collected on the same day discharge measurements were made. The samples were given to the Corps of Engineers for analysis.

White Subregion

Sediment data were collected monthly at North Sylamore Creek near Fifty Six, Ark., as part of the National Hydrologic Benchmark Network.

Upper Arkansas Subregion

Sedimentation data were collected about twice monthly at Arkansas River at Canon City and Arkansas River near Portland in cooperation with the U.S. Bureau of Reclamation, Region 7.

Data on suspended sediment concentration were collected monthly at Halfmoon Creek near Malta as a part of the National "benchmark" network and is supported by federal funds.

Arkansas in Kansas Subregion

Daily sampling continued at:

Arkansas River near Kinsley, Kansas
Walnut Creek at Albert, Kansas
Arkansas River at Arkansas City, Kansas
Walnut River at Winfield, Kansas

Monthly sampling continued at:

Arkansas River at Syracuse, Kansas
Whitewoman Creek near Leoti, Kansas
Arkansas River at Dodge City, Kansas
Guzzlers Gulch near Ness City, Kansas
Pawnee River near Larned, Kansas
Arkansas River at Great Bend, Kansas
Cow Creek near Lyons, Kansas
Arkansas River near Hutchinson, Kansas
North Fork Ninnescah River above Cheney Reservoir, Kansas
South Fork Ninnescah River near Murdock, Kansas
Ninnescah River near Peck, Kansas

All activity is in cooperation with the Kansas Water Resources Board.

Upper Cimarron Subregion

Monthly sampling continued at Bear Creek near Johnson, Kansas, and Cavalry Creek near Coldwater, Kansas, in cooperation with the Kansas Water Resources Board.

Upper Canadian Subregion

One monthly station, Canadian River at Taylor Springs, N. Mex., was continued in conjunction with the Water Quality Surveillance program, a and financed cooperatively by NMISC New Mexico Interstate Stream Commission.

One monthly station, Revuelto Creek near Logan, N. Mex., was continued and financed cooperatively by the NMISC.

Canadian in Texas Subregion

Monthly measurements of suspended-sediment began on Oct. 1, 1974, on Canadian River near Canadian, Texas. This station is part of NASQAN and is financed by the Federal Program funds.

Lower Canadian Subregion

The periodic sediment station operated on Dry Creek near Kendrick, Oklahoma was discontinued July 1, 1974.

Lower Arkansas Subregion

Sediment data were collected monthly at Kiamichi River near Big Cedar, Oklahoma as a part of the National Hydrologic Benchmark Network.

Two monthly stations, Arkansas River at Dam No. 13 near Van Buren, Ark., and Arkansas River at David D. Terry Lokc and Dam below Little Rock, Ark., were changed to National Stream-Quality Accounting Network, and collection of sediment data was started in October 1974.

Red River Headwaters Subregion

Monthly measurements of suspended-sediment began on Oct. 1, 1974, on Prairie Dog Town Fork Red River near Wayside and Salt Fork Red River near Wellington, Texas. These stations are part of NASQAN and are financed by Federal Program funds.

Red - Washita Subregion

Periodic measurements of suspended-sediment were continued on Beaver Creek near Electra, Wichita River at Wichita Falls, Little Wichita River near Archer City, East Fork Little Wichita River near Henrietta, and Mineral Creek near Sadler, Texas. This work is financed by Federal Program funds.

Monthly measurements of suspended-sediment began Oct. 1, 1974, on Red River near Burkburnett, and Red River at Denison Dam near Denison, Texas. These stations are part of NASQAN and are financed by the Federal Program funds.

Lower Red Subregion

Sediment data were collected at the following sites:

Red River at Alexandria, La.
Red River at Colfax, La.
Red River at Fulton, Ark.
Red River at Shreveport, La.

SOIL CONSERVATION SERVICE

1. Studies of sediment damages and determinations of sediment yields were made for work plans in the following watersheds:

a. Public Law-566

Major Drainage	Watershed	Stream	County(s)	State(s)
Red River	Big Creek	Big Creek	Columbia	Ark.

b. Resource Conservation and Development Project

Studies of sediment damages and determination of sediment yields were made in the following watersheds:

Project Name	County	State
Northeast Texas (Noble and Ghost Creeks)	Lamar	Texas

2. Basic Data Collection

a. Sedimentation Surveys were made on the following reservoirs during 1974.

Reservoir sedimentation surveys in Fremont and El Paso Counties, Colorado.

Reservoir	Date of Survey	Location Sec.	Location Twp.	Location Rge.	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/yr (Ac-Ft/SqMi)	Capacity Loss (Pct/Yr)
MG-1	1/17/74	19	18S	69W	2.27	427.3	2	Trace	0
S-1	2/27/74	23	11S	63W	4.71	326.1	12	0.59	-

Major Drainage	Watershed	Stream	County(s)	State	Structure No.
Red River	Washita River	Chigly-Sandy	Garvin	Okla.	4
Red River	Washita River	Whiteshield	Beecham	Okla.	4
Red River	Washita River	Cavalry	Washita	Okla.	1
Arkansas River	North Canadian	Big Wewoka	Hughes	Okla.	36
Arkansas River	Deep Fork Cr.	Little Deep Fork	Creek	Okla.	10
Washita River	Upper Washita		Hemphill	Texas	25
Red River	Kent Creek		Briscoe	Texas	1

Survey results are summarized:

Structure Name and No.	Date of Survey	Drainage Area (Sq Mi)	Length of Record (Yrs)	Original Capacity (Ac-Ft)		Total Deposit (Ac-Ft)	Average annual Sediment Deposit (Ac-Ft/Sq Mi)		Annual Capacity Loss (Percent)	
				Sediment Pool	Both Pools		Sediment Pool	Both Pools	Sediment Pool	Both Pools
Chigley Sand No. 4	5/20/74	3.80	18.77	251.15	1075.32	126.9	1.04	1.81	1.5	0.6
White-Shield No. 4	6/15/74	0.62	25.47	74.64	223.43	61.1	1.88	4.00	1.5	1.1
Cavalry No. 1	6/24/74	2.19	25.91	207.79	505.44	69.3	0.80	1.24	0.8	0.5
Big Wewoka No. 36	7/15/74	2.26	14.02	210.9	690.3	17.30	0.44	0.56	0.46	0.18
Little Deep Fork No. 10	9/10/74	7.55	5.86	396.08	1522.49	28.6	0.38	0.66	0.71	0.32
Upper Washita 25	9/74	7.14	12.78	274.62	1315.92	28.47	0.17	0.32	0.43	0.17
Kent Creek 1	9/74	1.52	10.40	295.42	*625.80	84.59	5.44	5.57	2.69	1.30

*Original capacity, Kent Creek 1, revised upward 1974

TEXAS-GULF REGION

BUREAU OF RECLAMATION

A proposed layout of sedimentation ranges for the Palmetto Bend Reservoir is being considered for implementation. The reservoir site is on the Navidad River near Ganado in southeastern Texas.

CORPS OF ENGINEERS

Southwestern Division

Fort Worth District

The sedimentation report on the 1972 resurvey of Canyon Lake, river mile 303, Guadalupe River, Guadalupe River Basin, Texas, was submitted and approved by the Southwestern Division.

Aerial mosaics were made for the flood-control pool of Benbrook Lake, Grapevine Lake, Lewisville Lake, and Lavon Lake. These lakes are located on various tributaries of the Trinity River, Trinity River Basin, Texas. The topographic map developed from these aerial mosaics is to a scale of 1" = 1,000' with five-foot contour intervals. The maps will be used for observation of delta areas and future sedimentation resurveys of these lakes.

FOREST SERVICE

Forest land in the Texas Gulf Coastal River Basin has been sampled with approximately 250 plots for erosion and sediment data. Analysis is expected in FY 1976.

GEOLOGICAL SURVEY

Sabine Subregion

Monthly measurements of suspended-sediment began Oct. 1, 1974, on Sabine River near Ruliff, Texas. This station is part of NASQAN and is financed by Federal Program funds.

Neches Subregion

Monthly measurements of suspended-sediment began Oct. 1, 1974, on Neches River at Evadale, Texas. This station is part of NASQAN and is financed by Federal Program funds.

Upper Trinity Subregion

Daily or more frequent measurements of suspended-sediment were continued on Big Sandy Creek near Bridgeport, Clear Creek near Sanger, Little Elm Creek near Celina, and Little Elm Creek near Aubrey, Texas. This work is in cooperation with Texas Water Development Board.

Periodic measurements were continued on Elm Fork Trinity River near Sanger, Isle du Bois Creek near Pilot Point, Texas, and Denton Creek near Justin, Texas. This work is financed by Federal Program funds.

Periodic measurements of total-sediment discharge were continued on Trinity River below Dallas and Trinity River at Rosser, Texas, in cooperation with the U.S. Army Corps of Engineers.

Lower Trinity Subregion

Periodic measurements of suspended-sediment were continued on West Fork San Jacinto River near Conroe, Spring Creek near Spring, and Caney Creek near Splendora, Texas. This work is financed by Federal Program funds.

Periodic measurements of suspended-sediment were continued on Panther Branch near Spring, Texas, in cooperation with the Texas Water Development Board.

Periodic measurements of total-sediment discharge were continued on Trinity River near Crockett and Trinity River at Romayor, Texas, in cooperation with U.S. Army Corps of Engineers.

Monthly measurements of suspended-sediment began on Jan. 1, 1974, on Trinity River at Romayor and Oct. 1, 1974, for Trinity River near Crickett, Texas. These stations are part of NASQAN and are financed by the Federal Program funds.

Middle Brazos Subregion

Periodic measurements of suspended-sediment were continued on Clear Fork Brazos River at Hawley, Hubbard Creek near Albany, North Fork Hubbard Creek near Albany, and Big Sandy Creek near Breckenridge, Texas. This work is financed by Federal Program funds. Monthly measurements of suspended-sediment began on Oct. 1, 1974, on the Salt Fork Brazos River near Aspermont, Brazos River at Seymour, and Brazos River near Highbank, Texas. These stations are part of NASQAN and are financed by the Federal Program funds.

Lower Brazos Subregion

Daily or more frequent measurements of suspended-sediment were continued on Brazos River at Richmond, Texas. This work is financed by Federal Program funds.

Monthly measurements of suspended-sediment were continued at the hydrologic benchmark station on South Fork Rocky Creek near Briggs, Texas. Periodic measurements of suspended-sediment were continued on Little Pond Creek at Burlington, East Yegua Creek near Dime Box, Davidson Creek near Lyons, and Mill Creek near Bellville, Texas. This work is financed by Federal Program funds.

Weekly or more frequent measurements of suspended-sediment and bed material were continued on Navasota River near Bryan, Texas. This work is financed by U.S. Army Corps of Engineers.

Monthly measurements of suspended-sediment were continued on Brazos River near Rosharon, Texas. This station is part of NASQAN and the work is financed by Federal Program funds.

Colorado (Texas) Headwaters Subregion

Monthly measurements of suspended sediment began on Oct. 1, 1974, on Beals Creek near Westbrook, Texas. This station is part of NASQAN and is financed by Federal Program funds.

Lower Colorado - Llano Subregion

Periodic measurements of suspended-sediment were continued on Sandy Creek near Kingsland, Texas. This is financed by Federal Program funds.

Monthly measurements of suspended-sediment began on Jan. 1, 1974, on the Colorado River at Austin and on Oct. 1, 1974, on Colorado River near Stacy and Colorado River at Wharton, Texas. These stations are part of NASQAN and are financed by Federal Program funds.

Guadalupe - San Antonio Subregion

Periodic measurements of suspended-sediment were continued on San Antonio River near Falls City, Cibolo Creek near Falls City, Ecleto Creek near Runge, and Aransas River near Skidmore, Texas. This work is financed by Federal Program funds.

Monthly measurements of suspended-sediment were continued on Guadalupe River at Victoria. On Oct. 1, 1974, monthly measurements of suspended sediment began on San Antonio River at Goliad and Navidad River near Ganado, Texas. These stations are part of NASQAN and are financed by Federal Program funds.

Nueces - Frio Subregion

Monthly measurements of suspended sediment began on Oct. 1, 1974, on Nueces River near Three Rivers and Los Olmos Creek near Falfurrias, Texas. These stations are part of NASQAN and are financed by the Federal Program funds.

TEXAS-GULF REGION

SOIL CONSERVATION SERVICE

1. River Basin Investigations

Major Basin	State
Texas Gulf Coast	Texas

2. Basic Data Collection

a. Sedimentation Surveys were made on the following reservoirs during 1974:

Structure Number	Watershed	Major Drainage	County	State
7	Clear Fork	Trinity River	Parker	Texas
37	Chambers Creek	Trinity River	Johnson	Texas
101-A	Chambers Creek	Trinity River	Navarro	Texas

b. Results of the above surveys are summarized as follows:

Watershed and Site No.	Date of Survey	Drainage Area	Length of Record	Original Capacity Sediment Pool	Original Capacity Both Pools	Total Deposits	Average Annual Deposits Sediment Pool	Average Annual Deposits Both Pools	Annual Capacity Loss Sediment Pool	Annual Capacity Loss Both Pools
		(Sq Mi)	(Yrs)	(Ac-Ft)		(Ac-Ft)	(Ac-Ft/Sq Mi)		(Percent)	
Clear Fork 7	4-74	2.55	18.50	175.00	746.90	146.81	2.34	3.25	3.28	1.06
Chambers Creek 37	5-74	2.05	13.50	68.13	624.84	14.92	0.46	0.57	1.34	0.18
Chambers Creek 101A	6-74	2.58	14.20	326.68	1152.11	48.44	1.42	1.46	1.02	0.30

RIO GRANDE REGION

BUREAU OF RECLAMATION

A partial resurvey of Elephant Butte Reservoir on the Rio Grande was run. Reservoir area and capacity tables were updated from the results of this resurvey.

CORPS OF ENGINEERS

Southwestern Division

Albuquerque District

Sedimentation Surveys.

a. The sediment report presenting results of the August 1973 resurvey of Abiquiu Dam, Rio Chama, New Mexico, was submitted to Southwestern Division and was approved subject to minor revisions. The report will be published and distributed to interested parties in the near future.

a. A resurvey of Jemez Canyon Dam, Jemez River, New Mexico, is scheduled for January 1975. It is intended to use aerial topography to profile approximately 50 sections between the dam and the top of flood control. These sections will be digitized and controls will be by existing monuments and the New Mexico grid systems. Degradation below the dam will be observed by a similar system.

c. The sediment observation system for Cochiti Lake, Rio Grande, New Mexico, was revised. It is intended to use a system combining a minimum system of range lines, aerial topography, and hydrographic survey methods to obtain maximum accuracy at a minimum cost.

Sediment Load Measurements. Suspended sediment measurements were made at four stations in the Rio Grande Region. A fifth station, Rio Grande below Cochiti Dam, began operation 26 August 1974 and daily samples will be taken of the sediment outflow from Cochiti Lake.

Other Investigations. Sediment Control--Galisteo, Jemez Canyon, and Abiquiu Dams were operated to control sediment flow in the Rio Grande.

GEOLOGICAL SURVEY

North Rio Grande Subregion

One monthly station, Red River at Fish Hatchery near Questa, N. Mex., was continued and cooperatively financed by the NMISC.

Three daily stations on the Rio Chama operated by the Corps of Engineers were continued. The records are reviewed and published by the Geological Survey.

Two daily stations on the main stem of the Rio Grande, at Otowi Bridge near San Ildefonso, and at Albuquerque, N. Mex., were continued and financed by Federal CBR funds.

A daily station was established on the main stem of the Rio Grande below Cochiti Dam, N. Mex., financed by the Corp of Engineers.

Two daily stations on major tributaries, Galisteo Creek below Galisteo Dam, and Rio Puerco near Bernardo, N. Mex., were continued and financed by Federal CBR funds.

Two trap-efficiency studies, financed by the Soil Conservation Service, on Piedra Lisa Arroyo near Bernalillo, and Tortugas Arroyo near Las Cruces, N. Mex., were discontinued on June 30, 1974.

Three daily stations on the main stem of the Rio Grande, near Bernardo, at San Acacia, and at San Marcial, N. Mex., were continued and financed cooperatively by the NMISC.

Bi-weekly total-load determinations (computed by the modified Einstein method) at four stations on the main stem of the Rio Grande, at Albuquerque, near Bernardo, at San Acacia, and at San Marcial, N. Mex., were continued and financed cooperatively by the NMISC.

Three daily stations on Rio Grande Conveyance Channels, near Bernardo, at San Acacia, and at San Marcial, N. Mex., were continued and financed cooperatively by the NMISC.

Bi-weekly total-load determinations (computed by the modified Einstein method) at one station on the Rio Grande Conveyance Channel, at San Marcial, N. Mex., were continued and financed cooperatively by the NMISC.

The intermittent station on the Rio Salado was continued and financed cooperatively by NMISC.

The project, "Channel adjustments downstream of Cochiti Dam on the Rio Grande," was continued, financed by Federal funds. The objectives are to document channel changes with time and distance downstream from the dam. Cross-section data, streambed elevations, and sediment size distributions will be among the items studies for change. Attempts will be made to determine causative relations, so changes downstream from other dams can be predicted. Cochiti Dam presently is under construction and is scheduled for completion in 1975.

The Rio Mora near Terrero, N. Mex., was continued, financed by Federal Hydrologic Benchmark funds. This station operation entails obtaining coverage on several events each year plus monthly samples.

One intermittent station, Pecos River below Alamogordo Dam, N. Mex., was started in March 1972, and is cooperatively financed by the NMISC.

Two daily stations, Pecos River at Santa Rosa, and Pecos River near Artesia, N. Mex., were continued and are financed by Federal CBR funds.

One monthly station, Pecos River at Red Bluff, N. Mex., was continued. The funding was changed from Water-Quality Surveillance (EPA) to National Stream-Quality Accounting Network.

Rio Grande - Mimbres Subregion

Monthly measurements of suspended-sediment began Oct. 1, 1974, on Rio Grande at Fort Quitman, Texas. This station is part of NASQAN and is financed by Federal Program funds.

Rio Grande - Big Bend Subregion

Monthly measurements of suspended-sediment began on Oct. 1, 1974, on Rio Grande at Foster Ranch near Langtry, Texas. This station is part of NASQAN and is financed by Federal Program funds.

Lower Pecos Subregion

Monthly measurements of suspended-sediment began on Oct. 1, 1974, on Pecos River near Langtry, Texas. This station is part of NASQAN and is financed by Federal Program funds.

Rio Grande - Amistad Subregion

Monthly measurements of suspended-sediment were continued on Rio Grande at Laredo, Texas. This station is part of NASQAN and is financed by Federal Program funds.

Lower Rio Grande Subregion

Daily or more frequent measurements of suspended-sediment were continued on Rio Grande near Brownsville, Texas, and weekly or more frequent measurements of suspended sediment were continued on North Floodway near Sebastian, and Arroyo Colorado Floodway at El Fuste Siphon, south of Mercedes, Texas. This work is financed by Federal Program funds.

RIO GRANDE REGION

SOIL CONSERVATION SERVICE

Sedimentation Surveys made in Rio Arriba County, New Mexico, Santa Cruz Watershed

Reservoir	Date of Survey	Location Sec.	Location Twp.Rge.	Drainage Area (SqMi)	Original Capacity (Ac-Ft)	Age (Yrs)	Sediment Accum/yr (Ac-Ft/SqMi)	Capacity Loss (Pct/Yr)
Santa Cruz No. 2*	6-74	36	T21N R9E	1.56	156	11	7.19	7.2
Santa Cruz No. 5		33	T21N R9E	1.28	138	12	3.14	2.9

*Dropped from National Reservoir Sedimentation Study because of sediment capacity depletion.

UPPER COLORADO REGION

BUREAU OF RECLAMATION

A field inspection was made of the Dolores River channel to study the backwater conditions above McPhee Reservoir. Hydraulic and sediment data were collected to estimate the delta formation above the reservoir. Subsequent studies showed that 11,000 acre-feet of sediment was estimated to accumulate in McPhee Reservoir in a 100-year period.

A sonic sounding program was begun at the Blanco Diversion Dam on the Blanco River and at Oso Diversion Dam on the Navajo River. The purpose of taking soundings is to monitor sediment deposition and movement in the reservoirs created by these dams.

Structural design changes in the existing Blanco, Oso, and Little Oso Diversion Dams have been proposed to alleviate the sluicing, trash, and sediment problems that have been experienced at these dams.

Sonic soundings of sedimentation ranges on the Bridge Creek arm of Lake Powell near Rainbow Bridge were made. The purpose of the soundings is to monitor the sediment conditions in the vicinity of the Rainbow Bridge structure and foundation.

Sediment studies indicated that 92 acre-feet of sediment is estimated to accumulate in Monument Creek Reservoir in a 100-year period. The studies also showed this volume of sediment would reach a height of elevation 6783 feet at the dam.

A 100-year sediment inflow of 125 acre-feet was estimated for Stateline Reservoir. The damsite is on East Fork of Smiths Fork about 0.5 mile south of the Wyoming-Utah State line and has a drainage area of about 49 square miles.

Plans are under consideration to run a complete instrument resurvey of Lake Powell in 1979.

FOREST SERVICE

Suspended solids (mg/l) are being sampled at 30 sites and turbidity (JTU's) at 5 sites, as part of the Manti-LaSal National Forest non-point sources of pollution monitoring plan. Monitoring began at five of these sites during July 1974. The plan will become fully operational this spring. Results will be entered into the STORET system.

As part of the Straight Canyon Barometer Watershed program, suspended solids (mg/l) and turbidity (JTU's) are being monitored at 15 locations and the results entered into the STORET system.

GEOLOGICAL SURVEY

Upper Green Subregion

Collection of suspended-sediment records continued at Red Creek near Dutch John in cooperation with the U.S. Bureau of Land Management. Data are collected daily or more frequently during the main runoff season in late spring and early summer, and less frequently during the remainder of the year.

Sediment data were collected at one site on a daily basis as part of a Federal program to continue long term measuring of sediment yield from the upper Green River Basin and into Flaming Gorge Reservoir. Sediment data were collected at six sites on a monthly basis as part of a program with the Wyoming State Engineer. One of these six sites, namely Blacks Fork near Little America, is being used in an attempt to detect changes in basin sediment yield that may be caused by additional irrigation water from Meeks Cabin Reservoir.

Yampa - White Subregion

Sediment data were collected at one site on a monthly basis as part of a program with the Wyoming State Engineer.

Collection of comprehensive suspended-sediment records was started at White River near mouth near Ouray, Utah, in cooperation with the U.S. Bureau of Land Management. As part of the program for the establishment of base-line data for areas of potential development of oil shale in the White River basin in Utah, collection of comprehensive sediment data was started in 1974 at 25 stations on the White River and its tributaries in Utah. Data were obtained at 14 stations in cooperation with the Utah Department of Natural Resources, at 4 stations in cooperation with the U.S. Bureau of Land Management, and at 7 stations as part of the Geological Survey program.

Starting in March 1974 a series of streamflow, chemical quality, and sediment quality stations were established in the Piceance Creek Basin to monitor the oil shale development project. All stations are equipped with pumping sediment samplers. Those stream sites having continuous flow are sampled daily. Those having low flows not adequate for daily sampling are sampled approximately biweekly. The streams that are normally dry are set to collect samples continuously during periods of flow with the pumping sampler. The following stations have been established:

Stations	Started	Frequency
Piceance Cr bl Rio Blanco	May 1974	Daily
M.F. Stewart Gulch nr Rio Blanco	" "	Dry to date
Stewart Gulch at West Fork	Oct. 1974	Daily
W.F. Stewart Gulch nr Rio Blanco	May 1974	Biweekly
W.F. Stewart Gulch at mouth	" "	Dry to date
Sorgham Gulch nr Rio Blanco	" "	" " "
Cottonwood Gulch nr Rio Blanco	" "	" " "
Piceance Cr trib nr Rio Blanco	" "	" " "
Scandard Gulch nr Rio Blanco	" "	" " "
Scandard Gulch at mouth	" "	" " "
Willow Cr. nr Rio Blanco	" "	Daily
Piceance Cr ab Hunter Creek	" "	Daily
Piceance Cr bl Ryan Gulch	Feb. 1974	Daily
Piceance Cr at White River	March 1974	Daily
Stake Springs Draw nr Rangeley	May 1974	Dry to date
Corral Gulch bl Water Gulch	March 1974	Biweekly
Dry Fork nr Rangeley	" "	Dry to date
Box Elder Bulch nr Rangeley	April 1974	Biweekly
Corral Gulch nr Rangeley	March 1974	Biweekly
	Oct. 1974	Daily
Yellow Cr nr White River	April 1974	Daily

These stations have been operated in cooperation with the Colorado River Water Conservancy District.

Sedimentation data were collected monthly at White River above Rangeley in cooperation with the Colorado River Water Conservancy District.

Sedimentation data were collected monthly at Yampa River near Maybell starting in July as a part of the National Stream-Quality Accounting Network (NASQAN). This activity is supported by Federal funds.

Lower Green Subregion

Collection of comprehensive suspended-sediment records continued at Green River near Jensen and at Green River at Green River, Utah.

Colorado Headwaters Subregion

Automatic pumping samplers were operated at West Tenmile Creek at Wheeler Junction, Black Gore Creek near Vail, and Gore Creek at Vail, Colo., during the year. The samplers were set to sample daily during the non-construction period and twice daily or more frequently during the construction period. In November, continuous recording turbidimeters were installed at these sites and were connected to the sediment samplers. The samplers will now collect one sample each day and additional samples every 15 minutes when the turbidity exceeds 59 Jackson Turbidity Units. This activity is in cooperation with the Colorado Department of Highways to collect sedimentation data related to the construction of I-70 over Vail Pass in Colorado.

Sedimentation data were collected monthly at Colorado River near De Beque, Colo., starting October, 1973, and then increased to a daily frequency starting in October, 1974, in cooperation with the Colorado River Water Conservancy District.

Colorado - Dolores Subregion

Collection of comprehensive suspended-sediment records continued at Colorado River near Cisco, Utah. Collection of suspended-sediment records continued at Mill Creek near Moab in cooperation with the Utah Department of Natural Resources.

Upper San Juan Subregion

Sedimentation data were collected twice monthly during April, May and June, and monthly during July, August, and September at Wolf Creek near Pagosa Springs, Middle Fork Piedra River near Pagosa Springs, Animas River near Howardville, and Mineral Creek near Silverton, Colo., in cooperation with the U.S. Bureau of Reclamation, Atmospheric Water Resources.

Data on sedimentation were collected twice monthly during April, May, and June and monthly during the rest of the year at Vallecito Creek near Bayfield as a part of the National Benchmark Network. This activity is supported by Federal funds.

Two daily stations, Animas River at Farmington, and San Juan River at Shiprock, N. Mex., were continued and financed by Federal CBR funds.

One quarterly station, Navajo River near Edith, Colo, was continued. The funding was changed from EPA to NMISC.

Miscellaneous samples for the San Juan - Chama project, USBR, were analyzed for size distribution and/or concentration in the Albuquerque laboratory, funded by the USBR Chama office.

An energy project "Hydrologic Surveillance of Coal Lease Areas in Northwestern New Mexico" was established and is financed by Federal CBR and Bureau of Land Management. The objectives are to document changes in Hydrology and determine a causative relation before, during, and after mining of coal in these study areas.

Colorado - San Juan Subregion

Daily measurements of suspended-sediment and occasional determinations of particle-size distribution were continued at Paria River at Lees Ferry, Arizona, as part of the Geological Survey data-collection program.

Weekly sampling of suspended-sediment discharge continued at Colorado River at Lees Ferry, Arizona in cooperation with the Bureau of Reclamation.

Collection of suspended-sediment records continued at San Juan River near Bluff, Utah.

LOWER COLORADO REGION

BUREAU OF RECLAMATION

A field inspection was made of the Salt and Verde Rivers above and below Orme damsite and Agua Fria, New River, and Skunk Creek at Granite Reef Aqueduct crossings. Purpose of the inspection included checking the several features downstream of Orme Dam to determine the degradation potential and checking conditions in the area of the crossings for determining the scour potential. Subsequent studies were made to compute the scour at the various crossings which was found to vary from 5 to 8 feet.

Sediment studies made of the Thumb Butte Reservoir site on Miller Creek showed an estimated sediment inflow to the reservoir of 55 acre-feet for a 100-year period.

A field inspection was made of the sand conditions prevalent at the Ashurst-Hayden Diversion Dam on the Gila River. The inspection revealed problems were developing from sediment deposits in the area above the diversion dam and in a canal system that is part of the project. It was recommended that a dredge be used to maintain a storage or small reservoir upstream from the dam to alleviate most problems that have been experienced.

GEOLOGICAL SURVEY

Little Colorado Subregion

Daily measurements of suspended-sediment discharge and occasional determinations of particle-size distribution were continued at Moenkopi Wash near Tuba City, Arizona. Collection of suspended-sediment data on selected storm events was continued on two tributaries to Moenkopi Wash on Black Mesa where coal strip mining is in operation. The stations are in cooperation with the Arizona Water Commission.

Colorado - Lake Meade Subregion

Periodic sediment measurements were made in Las Vegas Wash near Boulder City, Nevada, in cooperation with the U.S. Bureau of Reclamation.

Collection of suspended-sediment records was started at North Fork Virgin River below Bullock Canyon near Glendale, Utah, in cooperation with the Utah Department of Natural Resources. Investigations were discontinued at Virgin River near Hurricane, Utah.

Upper Gila Subregion

Daily sampling of suspended-sediment discharge and occasional determinations of particle-size distribution were continued at Gila River at Head of Safford Valley near Solomon, Arizona, in cooperation with the Bureau of Reclamation.

The trap-efficiency study of Frye Creek detention reservoir at Thatcher, Arizona, was discontinued June 30, 1974.

One quarterly station, San Francisco River near Glenwood, N. Mex. was discontinued 6/11/73, and was financed by EPA.

Mogollon Creek near Cliff, N. Mex., was continued and is financed by Federal Hydrologic Benchmark funds. This station operation entails obtaining coverage on several events each year plus monthly samples.

Gila - San Pedro Subregion

Daily measurements of suspended-sediment and occasional particle-size distribution were continued at the following stations in cooperation with the Bureau of Reclamation:

San Pedro River at Charleston, Arizona
San Pedro River near Benson, Arizona
San Pedro River at Winkelman, Arizona
Gila River at Kelvin, Arizona

Weekly sampling of suspended-sediment was continued at Santa Cruz near Nogales, Arizona, in cooperation with the Arizona Water Commission.

Gila - Salt Subregion

Monthly sampling of suspended-sediment was continued at Wet Bottom Creek near Childs, Arizona, as part of the Geological Survey Hydrologic Benchmark Program.

Monthly suspended-sediment sampling was continued at the following stations in cooperation with the Forest Service:

West Fork Sycamore Creek above McFarland Canyon near Sunflower, Arizona
East Fork Sycamore Creek near Sunflower, Arizona

Colorado - Lake Mojave Subregion

A devastating flash flood in Eldorado Canyon south of Las Vegas during September 1974, was investigated in cooperation with the National Park Service. Results of the investigation include assessment of total sediment load transported by the flood, particle-size distribution of the sediment, possible land-surface denudation associated with sediment loads, and specific characteristics of sediment movement and erosion. Results of the study are now available as an open-file report and are also planned for publication in the U.S. Geological Survey Professional Paper series in mid-1975.

LOWER COLORADO REGION

SOIL CONSERVATION SERVICE

1. Studies of sediment damages and determinations of sediment yields were made for work plans in the following watersheds:

a. Public Law-566

Major Drainage	Watershed	Stream	County(s)	State(s)
Gila River	Buckhorn-Mesa	-	Maricopa and Pinal	Arizona
Gila River	Harquahala	-	Maricopa	Arizona
Gila River	Tonopah	-	Maricopa	Arizona
White River	White River	Ellison Ck.	White Pine, Nye & Lincoln	Nevada

b. River Basin Investigations

Major Basin	Basin Reported	State(s)
Gila River	Santa Cruz-San Pedro	Arizona

Reservoir sedimentation survey in Graham County, Arizona.

Reservoir	Date of Survey	Location Sec.	Location Twp.	Location Rge.	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/Yr (Ac-Ft/SqMi)	Capacity Loss (Pct/Yr)
Frye Creek (No. 3)	5/74	14	7S	25E	21.4	2211	11	0.37	0.36

Reservoir sedimentation survey in Lincoln County, Nevada but not previously reported.

Reservoir	Date of Survey	Location Sec.	Location Twp.	Location Rge.	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/Yr (Ac-Ft/SqMi)	Capacity Loss (Pct/Yr)
Schroeder	5/68	21	5S	71E	39.8	300	8	0.24	3.1

2. Sedimentation Surveys

Sedimentations surveys made in Lincoln and White Pine Counties, Nevada and erroneously recorded in the 1973 report to be in the Great Basin.

Reservoir	Date of Survey	Location Sec.	Twp.	Rge.	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/Yr (Ac-Ft/SqMi)	Capacity Loss (Pct/Yr)
Hollinger Debris Basin	6/72	20	3N	70E	200	384	9	0.04[1/]	1.66
Ellison Creek	11/73	16	13N	60E	74	72	25	0.021	2.1

[1/] Includes sediment deposited above spillway level.

GREAT BASIN REGION

GEOLOGICAL SURVEY

Special Studies

The final report is in preparation on a study to determine magnitude of sediment eroding from highway-cut slopes and discharge to streams tributary to Lake Tahoe relative to sediment currently transported by the streams. Cut slopes will be stabilized by revegetation and (or) spray application of plastic materials. Sediment discharge was determined for seven tributaries draining into Lake Tahoe and sediment load was determined at 17 treated and untreated highway cuts. Work is being done in cooperation with the California Department of Transportation, Division of Highways.

Great Salt Lake Subregion

Sediment data were collected monthly at Red Butte Creek at Fort Douglas near Salt Lake City as part of the National Benchmark Program.

Sevier Lake Subregion

A trap-efficiency study in cooperation with the U.S. Soil Conservation Service was discontinued at Mill Creek near Glenwood, Utah.

Central Lahontan Subregion

The trap efficiency study of a small flood retarding reservoir on Peavine Creek was continued in cooperation with the Soil Conservation Service. Analyses of 1974 water-year data are complete. The study was terminated and results of the investigation are now complete and final.

A study of the Truckee River near Nixon, Nevada, was continued in cooperation with the Bureau of Reclamation as a part of their Washoe project. At the Nixon gaging station, suspended-sediment samples were collected approximately monthly. Records of suspended-sediment discharge and particle-size distribution for the 1973 water year have been published and the 1974 records are in preparation.

The field phase of a reconnaissance study of fluvial sedimentation in the Incline Village area of the northeast part of Lake Tahoe Basin in cooperation with the Nevada Department of Conservation and Natural Resources, was concluded at the end of the 1973 water year. Data for the 1972 and 1973 water years are now being analyzed for publication in the third and final progress report of the series. The study will then be concluded by a final summary report of findings covering the four-year data collection program in cooperation with Washoe County, Nevada. A similar study of the Glenbrook Creek drainage on the east side of the Tahoe Basin is underway in cooperation with the Nevada Highway Department. Three years of data were collected during 1972-74. These data are now being analyzed and will be included, with interpretations, in a final report.

An investigation of fluvial sediment hazards to potential urban areas was continued in cooperation with the Nevada Bureau of Mines and Geology. The initial area of study is Washoe Valley, a suburban valley between the urban areas of Reno and Carson City. Similar work was also initiated in the South Lake Tahoe area. Results of the study will be shown as a map of potentially hazardous areas with respect to both flooding and sediment transport.

Tonopah Desert Subregion

Periodic measurements of suspended-sediment were made at South Twin River near Round Mountain, Nevada, and on Steptoe Creek near Ely, Nevada, as part of the Geological Survey Hydrologic Benchmark program. The 1974 water-year data are being analyzed and prepared for publication.

SOIL CONSERVATION SERVICE

1. Studies of sediment damages and determinations of sediment yields were made for work plans in the following watersheds:

a. Public Law-566

Major Drainage	Watershed	Stream	County(s)	State(s)
Sevier River	Richfield-West Sevier	Tributaries of Sevier River	Sevier	Utah
Humboldt River	Elko	Dorsey Creek	Elko	Nevada

2. Reservoir Surveys

Reservoir sedimentation survey in Elko County, Nevada.

Reservoir	Date of Survey	Location Sec.	Twp.	Rge.	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/Yr (Ac-Ft/SqMi)	Capacity Loss (Pct/Yr)
Eight Mile Creek	8/74	4,9	34N	55E	11.4	944	5.8	(being developed)	

Reservoir	Date of Survey	Location			Drainage Area	Orig. Cap.	Total Sed. Accum.	Age	Sediment Accum/Yr	Capacity Loss
		Sec.	Twp.	Rge.	(Sq Mi)	(Ac-Ft)	(Ac-Ft)	(Yrs)	(AcFt/SqMi)	(Pct/Yr)
Reservoir sedimentation survey in Sevier County, Utah										
Mill Canyon Retarding Structure	9/74	1	24S	2W	18.92 1/	224	32.88	15.25	0.16	0.96

1/ Sediment contributing area is 13.72 sq. mi. as 3 stock ponds reduce area by 5.20 sq. mi.

PACIFIC NORTHWEST REGION

BUREAU OF RECLAMATION

A report, "Future Effects of Sedimentation - Montour, Idaho," was prepared. A primary objective of the report was to study the effects of sediment deposition on upstream water surface profiles under existing, as well as future, conditions. Montour Valley is located at the upstream end of Black Canyon Reservoir on the Payette River.

It was concluded in a feasibility report investigation that Enloe Dam should be removed in steps and that the sediment load in the Okanogan River be monitored. Removal of this dam will result in excess sediments being flushed into the downstream river. The dam was built in about 1900 and is located about 5 miles above the confluence of the Similkameen and Okanogan Rivers.

The 100-year sediment inflow volume to Dayton Reservoir was estimated to be 1,000 acre-feet. Dayton damsite is on the headwaters of the Touchet River about 4.5 miles southwest of the town of Dayton, Washington.

CORPS OF ENGINEERS

North Pacific Division

Portland District

Monthly sediment sampling was conducted at stations on Rogue River, Elk Creek, Applegate River and South Umpqua River for planning and design purposes. Data are being maintained on suspended solids, turbidity, color, conductivity, temperature, pH, dissolved oxygen, total phosphate, orthophosphate, nitrites, nitrates and amonium nitrogen.

Seattle District

a. Snohomish River, Washington. The 29 sediment ranges were resurveyed in February and May of 1974 and will be resurveyed semi-annually during 1975.

b. Grays Harbor, Washington. Present and historic surveys are being analyzed to determine sediment movement rates and distribution within the estuary and along the ocean coast north and south of the harbor entrance. Frequent surveys will be continued.

c. Quillayute River, Washington. Semiannual hydrographic surveys have been taken to determine sediment disposition rates in the lower (downstream) mile of river channel, and to determine the littoral drift direction and rate along the ocean beaches. Semiannual surveys will continue.

d. Swinomish Channel, Washington. Analysis of sediment movement rates and distribution was begun. Frequent surveys will be taken.

e. Puyallup River, Washington. The 19 sediment ranges located in the estuary were resurveyed in May 1974.

f. White River, Washington. In 1974 the U.S. Geological Survey began collecting data on suspended sediment at one station located upstream from Mud Mountain Dam.

Walla Walla District

a. Resurveys of sediment ranges for the Deadman and Meadow Creek arm of Little Goose Reservoir were made during 1974, and ENG Form 1787 will be prepared as soon as data is available.

b. The suspended sediment and bedload sampling program at the stream gaging stations, Snake River near Anatone and Clearwater at Spalding, has not changed since last year and will continue, at least, through 1976.

FOREST SERVICE

R-6 - Portland, Oregon

Sedimentation studies in the Ashland Creek Watershed are continuing. These studies include measurements of collected sediment in three different reservoirs, measurements of suspended sediment, and measurement of stream channel changes and sediment depositions. Interpretation of this data is underway but will not be completed for some time. Hopefully, at the conclusion of the study both quantity of sediment and the source and/or cause of sediment will be available.

Columbia North Pacific Region
Payette National Forest (Snake River Basin)

1. A brief resume of preharvest activities on the West Branch Weiser River Water Evaluation Study was included in the "1970 Notes on Sedimentation Activities."

   Since that time all roads in the 3.96 square mile watershed have been built and logging activities have been completed on the area, except for three clearcut units in the upper portion of the drainage which will probably be harvested in the summer of 1975. Since last report, the calibration period has been completed and two years of post treatment data has been obtained. The average bedload sediment production for the 7-year pretreatment period was 6.24 cubic feet per square mile per year. The average bedload sediment production for the first two years of the post treatment period was slightly more than twice that of the calibration period, amounting to 13.18 cubic feet per square mile per year.

2. Silver King Mine Water Quality Monitoring.

Water quality monitoring was initiated on Indian Creek, a tributary to Hells Canyon Reservoir in August of 1972. The purpose of this monitoring was to assess the impacts of a mining venture located on Mann Creek, a small tributary to the Indian Creek drainage. Monitoring continued through the spring runoff period of 1973, a relatively low runoff year. At no time during any of the monitoring did the turbidity of samples from Mann Creek above the mine area or Indian Creek above the mouth of Mann Creek exceed 7 j.t.u. even during the most extreme situations.

Earlier, during March of 1972 a study of the increases in sedimentation due to land clearing of the mine area and millsite was made. Following a spring rainstorm period, bedload sediment was increased by 496 times on the tributary stream (Mann Creek) and by 49 times on the receiving stream (Indian Creek). Suspended sediment was 21 times the 'natural' rate on Indian Creek and 57 times the normal rate of the tributary stream on that same day.

On January 16, 1974, during a rain-on-snow runoff period, the tailings pond at the mine and millsite failed resulting in the following situation:

> Channel Destruction. As a result of the dam failure, an estimated 31,265 cubic yards of tailings, soil, rock, trees, and other debris were deposited in Indian Creek. This included an estimated 22,655 yards from the dam and tailings pond, and 2,777 yards from the lower face of the dam and the cleared area below. Thence, downstream for an estimated 1,750 feet, the channel of Mann Creek has been cut from a channel of about 2-3 feet wide and 3 feet deep to an average of 15 feet wide and 6 feet deep. This amounts to 5,833 yards of material. The vast majority of this 30,000+ yards of material was washed into Indian Creek and has either been deposited therein or flushed on downstream to the upper end of Hells Canyon Reservoir. A large debris fan now exists at the mouth of Mann Creek. Also, a large fan was created in Hells Canyon Reservoir by sediment washed downstream in Indian Creek.
>
> On two occasions soon after the dam failure occurred, water samples were taken at the following locations. The turbidity readings at these sites are as follows:

Site	Turbidity j.t.u.	
	Jan. 18	Jan. 21
Indian Creek above Mann Creek	3.5	1.7
Indian Creek below mouth of Mann Creek	270	21
Mann Creek above Mine	3.0	1.4
Mann Creek below Mine at Mouth	385	120
Mann Creek directly below Tailings Pond	7,500-13,100	---

3. South Fork Salmon River.

A. Bedload Sediment Studies.

1. **Remeasurement of permanent cross sections established in 1966 has continued. The number of cross section stations has increased from 8 to 24. The 1966 to 1971 data showed significant transport of sediment through the river system. The 1972 to 1974 data showed the trend continuing, but at a lesser rate.**

2. **Bedload sediment sampling was continued on tributaries of the South Fork Salmon River, using Helly-Smith bedload samplers. We used the newer hand-held model constructed of cast aluminum. To date, these samplers appear very satisfactory, showing good repeatability. Further testing and calibration is needed and will be carried out this season.**

3. **Three sediment sills were installed in small tributaries of the South Fork Salmon River in another effort to estimate bedload sediment production. Both slotted and Helly-Smith bedload samplers are being used to evaluate the worth of these structures.**

GEOLOGICAL SURVEY

Special Studies

The second 77-page basic-data report entitled "Suspended and bedload-sediment transport in the Snake and Clearwater Rivers in the vicinity of Lewiston, Idaho," was published during 1974. The report is a summary of information collected during the period July 1973 through July 1974. Tables of selected data and computations with many graphical presentations are provided and accompanied by brief explanations of the tables and graphs. The following description of instrumentation and data-collection techniques should be of interest to sedimentologists everywhere.

Streamflow gage heights were documented at 15-minute time increments with digital-punch tape recorders. Computer scanning of punched tapes enabled printouts of daily maximum, minimum, and mean gage heights, as well as hourly and daily mean values of discharge. Stream-water temperatures were recorded on continuous-trace thermographs. All measurements of stream-channel processes were made from cableways. Frequent discharge measurements confirmed stable gage height-discharge relations for both rivers and indicated little or no channel scour during periods of high streamflow. The observation that little or no channel scour occurs was substantiated for the Snake River in 1974. On June 25, when the discharge was 165,000 cubic feet per second, the steel suspension cable to the bedload sampler snapped, and the bedload sampler dropped to the streambed below--about a 20-feet depth of water. The sampler was recovered in August from a depth of water of about 5 feet. It was resting on top of an apparently undisturbed streambed, oriented correctly upstream and full of sediment but showing no indication of scour in the vicinity of the sampler.

Either P-61 or P-63 suspended-sediment samplers were used to collect point- and depth-integrated water samples for analysis of suspended-sediment concentration, size distribution, and spatial distribution. Bedload samplers of the Helley-Smith type were used to collect bedload samples that enabled determination of transport rate, size distribution, and spatial distribution. The bedload sampler used in 1974 incorporated a 6-inch square orifice in a geometric scale up of the standard Helley-Smith design. It was internally weighted to about 165 pounds by a lead-filled frame that allowed a streamlined design and increased stability. For each date of bedload-data collection, samples were collected at each of about 20 equally spaced cross-channel locations and for two traverses of the stream. Samplingduration was 60 seconds at each location. Bedload-sediment samples were individually tagged, air dried, and sieved. The size distribution was determined by the weight percentage of each size fraction retained on sieves that had incremental mesh-size openings differing by a factor of 1.414.

Other data being collected but not presented in this report include vertical-velocity distributions determined by Price current meter, transport rate of organic debris along the streambed, and concentrations of dissolved-mineral matter.

Kootenai Subregion

The daily suspended-sediment station at Kootenai River near Copeland, Idaho, was continued in operation as part of the Geological Survey waterways-treaty program to determine sediment transport at the international boundary.

Daily measurement of suspended sediment continued at Kootenai River below Libby Dam near Libby and at Fisher River near Libby in cooperation with the U.S. Army Corps of Engineers.

Pend Oreille Subregion

Monthly measurement of suspended sediment was begun in October at North Fork of Flathead River at Flathead B.C. under National Stream-Quality Accounting Network program.

Spokane Subregion

Suspended-sediment data were collected at high and medium flow at South Fork Coeur d'Alene River at Kellogg, Lawyer Creek near Nezperce, and on Palouse River near Potlatch, Idaho, in cooperation with the Idaho Department of Water Resources.

Bimonthly determinations of suspended-sediment discharge and occasional determinations of particle-size distribution were made at Hayden Creek above North Fork near Hayden Lake, Idaho, as part of the Hydrologic Benchmark Program.

Yakima Subregion

Since November 1973, miscellaneous suspended-sediment samples were collected on the Yakima Indian Reservation.

Upper Snake Subregion

Sediment data are being collected at one site on a monthly basis as part of the Federal Hydrologic Benchmark Program.

Suspended-sediment data were obtained at high and medium flows at Blackfoot River at Blackfoot, Idaho, Teton River near Driggs, Idaho, Portneuf River near Tyhee, Idaho, and Bruneau River near Hot Spring, Idaho, in cooperation with the Idaho Department of Water Resources.

To evaluate the effects of upstream dam construction, data on suspended-sediment transport were obtained monthly at Willow Creek near Ririe, Idaho, in cooperation with the Idaho Department of Water Resources.

Middle Snake Subregion

Monthly measurements of suspended-sediment discharge and occasional determinations of particle-size distribution were made at Big Jacks Creek near Bruneau, Idaho, as part of the hydrologic-benchmark program.

Suspended-sediment data were obtained at high and medium flows at Mores Creek near Arrowrock Dam, and at Weiser River near Weiser in cooperation with the Idaho Department of Water Resources. Periodic data were collected at 19 miscellaneous sites throughout the Weiser River basin in southwestern Idaho as part of a 2-year area-appraisal study.

Salmon Subregion

As part of a continuing comprehensive investigation of the hydrologic environment in the upper 1800 square miles of the Salmon River, sediment data were collected representing high, medium, and low flows at seven selected tributaries and main-stem locations. Previous to the investigation, which began in 1973, no sediment data were available for this part of Idaho. The sediment data include:

(a) Suspended-sediment concentration
(b) Bedload-transport rates, by Helley-Smith modified Arnhem sampler.

These data are being collected to indicate the interaction of hydraulic parameters and bedload-transport rates, but are insufficient as yet to define ratings of bedload-sediment discharge.

Lower Snake Subregion

(See report listed under special studies.) A cooperative program between the U.S. Geological Survey and the U.S. Army Corps of Engineers, Walla Walla District, was continued for the collection of sedimentation data at Clearwater River at Spalding, Idaho, and at Snake River near Anatone, Washington, in connection with the Lower Granite Dam project. Suspended-sediment and bedload samples are collected monthly during one or two winter rises, and weekly about 10-12 times during the spring freshet period. A specially weighted, modified Arnhem sampler is performing satisfactorily in collecting bedload in these deep, swift-flowing large streams.

A periodic sampling station on the Minam River was continued during the 1974 calendar year in connection with the Federal Benchmark program.

Upper Columbia Subregion

Collection of periodic suspended-sediment samples was continued on Andrews Creek near Mazama, Washington, as a part of the Geological Survey benchmark collection program.

Middle Columbia Subregion

Since November 1973, miscellaneous suspended-sediment samples were collected on the Yakima Indian Reservation.

Puget Sound Subregion

Since May 1974 suspended-sediment samples were collected on White River above Mud Mountain Dam.

Washington Coastal Subregion

The collection of suspended-sediment samples was continued on the North Fork Quinault River near Amanda Park, Washington, as a part of the Benchmark data-collection program.

Oregon Coastal Subregion

A study of the sediment transport of the Siuslaw River was continued during 1974 at the daily sediment discharge station near Mapleton, Oregon, in cooperation with Lane County.

Data collection to determine sediment yield in the coastal areas of Lincoln County was discontinued September 30, 1974. An open-file report is scheduled to be published in July, 1975, to present the findings of this 2 year program.

An Open-File report, "Sediment Yields of Streams in the Umpqua River Basin, Oregon" by D. A. Curtiss is in the final stages of review.

Beginning in October, 1974, nine periodic sampling stations were established in support of the NASQAN program. Data obtained will be published in the 1975 "Water Resources Data for Oregon, Part II.

SOIL CONSERVATION SERVICE

1. River Basin Investigations

Major Basin	Basin Reported	State(s)
Columbia River	Snake River	Idaho
Columbia River	Spokane River	Idaho
Columbia River	Clark Fork River	Idaho
Columbia River	Kootenai River	Idaho

Erosion and sediment studies in Idaho were primarily related to river basin investigations. Main emphasis was on the collection and analysis of suspended load and reservoir sedimentation data including channel erosion in the river basins listed above for inclusion in the Western U. S. Water Plan. These studies included data on soil salinity, salt load discharges, and estimated sediment yields. Other information furnished on a statewide basin for inclusion in the Western U. S. Water Plan included sheet and rill erosion by major land use and the treatment potential for erosion and sediment control on federal and private lands.

Periodic sampling in the Wilson River and a two-year program of suspended load sampling was initiated for Tillamook Bay in Oregon.

A sediment rating curve for the Umpqua River near Elkton, Oregon, was developed using unpublished USGS suspended load data.

Generalized sediment yield maps were completed for the counties of Asotin, Lincoln and Adams in Washington. Erosion rate and sediment yield measurement were determined for the Dechenne Watershed and the Missouri Flats Watershed in Whitman County, Washington.

2. Sedimentation Surveys

Wolf Creek Dam at North Powder, Oregon was completed in November and monuments for 12 ranges installed. This reservoir is included in the SCS National Reservoir Sedimentation Survey Plan.

Reservoir sedimentation surveys in Adams County, Washington.

Reservoir	Date of Survey	Location Sec.	Twp.	Rge.	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/Yr (Ac-Ft/SqMi)	Capacity Loss (Pct/Yr)
Bauer	5/74	23	18N	34E	1.17	2.39	8	0.26	12
Snyder	5/74	34	19N	35E	0.45	5.94	25	0.51	3.8

Reservoir sedimentation survey in Powell County, Montana.

Reservoir	Date of Survey	Location Sec.	Twp.	Rge.	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/Yr (Ac-Ft/SqMi)	Capacity Loss (Pct/Yr)
Nevada Creek	9/73	13	12N	10W	140	12,640	36	0.02	0.03

Reservoir sedimentation survey in Granite County, Montana.

Reservoir	Date of Survey	Location Sec.	Twp.	Rge.	Drainage Area (Sq Mi)	Orig. Cap. (Ac-Ft)	Age (Yrs)	Sediment Accum/Yr (Ac-Ft/SqMi)	Capacity Loss (Pct/Yr)
Lower Willow Creek	9/73	2	9N	14W	73.3	4,927	11 1/2	0.02	0.40

3. Miscellaneous Activities

Assembly and analysis of basic data relative to erosion on a county basis for Idaho was initiated to prepare working materials reports for SCS field personnel.

CALIFORNIA REGION

BUREAU OF RECLAMATION

Sediment studies made of Reach 5 of the Tehama-Colusa Canal, Central Valley Project, California, indicated that the 100-year sediment load for Funks Creek Dam be revised by increasing it to 480 acre-feet from 340 acre-feet. The studies also recommended that the scour estimate for Hunters Creek Siphon be revised from 8 to 5 feet.

CORPS OF ENGINEERS

South Pacific Division

Los Angeles District

Reservoir sediment data summary sheets (Form 1787), based on recent sediment resurveys, were completed for Cooks, Elmwood, Kinneloa, Lannan, Limekiln, Little Dalton, May No. 1, Scholl, Sierra Madre, Sunset (Upper), and Verdugo Debris Basins and San Gabriel and Lopex Flood Control Basins.

San Francisco District

Sedimentation activities in the District during 1974 encompassed two continuing studies in progress regarding the distribution and circulation of contaminants in San Francisco Bay, and obtaining data on sediment transport and turbidity in connection with water resources projects currently authorized, under construction and in operation. A summary of work accomplished in calendar year 1974 is given in the following paragraphs.

Dredge Disposal Study - San Francisco Bay and Estuary

a. Two of the thirteen study elements within the Dredge Disposal Study are directly concerned with sedimentation in San Francisco Bay, the Pollutant Distribution Study and the Material Release Study.

b. The Pollutant Distribution Study element is an evaluation of the horizontal and vertical distribution of contaminants in the Bay and the association of contaminants with sediment types. The Pollutant Distribution Study discusses contamination of the Bay in general, including an evaluation of all previous pollution sampling by the Corps and by others. Detailed evaluations are made on three characteristic areas of the Bay. The areas are Oakland Inner - Outer Harbor, a well developed, restricted current, industrial harbor complex; San Pablo Strait - Berkeley Flats, a shoaling area in the Central Bay; and San Pablo Bay - Carquinez Strait, a transition region from fresh water to saline water. Seismic profiling and deep core samples analyzed by layers were obtained in the three areas as tools for relating the physical and hydrodynamic factors in the areas with information on sources of pollutants and sediment circulation patterns. All field and laboratory work is completed. The report appendix is scheduled to be completed in FY 75.

c. The Material Release Study element addressess the recirculation of sediments. The study concentrates on the northern portion of San Francisco Bay and the sediment disposal site in Carquinez Strait. The primary objective is to determine the movement of disposed sediments and the amount of sediments redredged. The secondary objective is to gain insight into general sediment recirculation patters. The study was approached using a long-term tracer program and a numerical model. The tracer program utilized the element iridium fixed to the sediments and introduced into the system through the hopper dredge over a six-week period. Introduction rate was five grams iridium per hoppper per dredging cycle. A one-hundred square mile area of the Bay, containing one hundred stations was sampled for ten months; five cores per station were taken each month. Cores were sampled by layers, processed and radiated. Gamma ray emissions were quantified with dredging volumes. The field sampling was completed in December 1974. The report appendix is scheduled to be completed in November 1975.

d. Other study elements address disturbances generated by the dredging and disposal operation and the interactions of chemical, biological and physical factors in the Bay.

Sedimentation Studies for Water Resources Project

a. The U.S. Geological Survey (USGS) was authorized to study sediment transport, including bedload and turbidity in the Mad River Basin, California, and the downstream effects of the authorized Butler Valley Dam and Blue Lake Project. This project has been placed in inactive status, following an election in November 1973 which indicated the project lacked public support. Following the election, the San Francisco District decided to complete the above study, which had been scheduled for completion in the 1974 fiscal year. The draft final comprehensive report was prepared and presented for review during 1974. The completed report, tentatively titled "Impoundment Effects on Sediment Transport, Turbidity, and Channel Configuration of the Mad River, Humboldt County, California," will be available in FY 75. Financial support of all Mad River sediment stations will be terminated during FY 75.

b. With the closing of the sediment sampling stations on the Mad River, there are only two cooperative sediment stations currently in operation in the San Francisco District. Data from these stations will be used to evaluate the effects of the Coyote Dam-Lake Mendocino project and the Warm Springs-Lake Sonoma project on the sedimentation characteristicts of the Russian River.

c. A program designed to monitor the turbidity of inflow to and releases from Lake Mendocino has been in operation since March 1973. Measurements are made bi-weekly by reservoir maintenance personnel under the guidance of the USGS. Collected data are to be published in USGS water supply papers. A survey of the Lake Mendocino sediment ranges was funded in 1974 for completion in Fiscal Year 1975.

d. An alleged channel aggradation problem near Hopland, in the Russian River Basin downstream of Coyote Dam, was reported to the District in mid-1974. This problem has been thought to produce a constraint on flood control releases from Lake Mendocino. In late 1974, surveys were conducted in the problem area. Hydraulic studies will be made to evaluate the magnitude of the problem. Subsequently, modification to the existing flood control release operating criteria may be necessary to minimize adverse effects downstream. Changes in operating criteria will be documented in a revised reservoir regulation manual scheduled for completion in August 1975.

Sacramento District

Following information on sedimentation activities during the period 1 January 1974 to 31 December 1974 is reported.

a. Black Butte Lake. Routine samples of reservoir outflow were collected and analyzed for suspended sediment during the year. A detailed survey of sediment ranges was completed during 1973 and Form 1787 on this survey was prepared in 1974.

b. Pine Flat Lake. Routine samples of reservoir outflow were collected and analyzed for suspended sediment during the year. A detailed survey of sediment ranges was completed during 1973 and Form 1787 for this survey will be prepared.

c. Lake Kaweah, Success Lake and Isabella Lake. Routine samples of reservoir outflows were collected and analyzed for suspended sediment during the year.

GEOLOGICAL SURVEY

North Coastal Subregion

A study of the sediment transport, turbidity, and channel configuration of the Mad River is being made, especially as these relate to the possible effects of the proposed Butler Valley Dam and Blue Lake Project. The study is being made in cooperation with the U.S. Army Engineer District, San Francisco, Corps of Engineers, to determine specifically: (1) The effect of proposed reservoir water releases on the turbidity of downstream flows, (2) the capacity or competence of release flows to transport sediment supplied by tributaries downstream from the impoundment, (3) the effects of reservoir release flows on the configuration of the downstream channel system, and (4) the effect of the impoundment on transport of potential beach-forming sediment by the Mad River.

San Francisco Bay Subregion

The channel morphology and streamflow characteristics of a tributary to San Francisquito Creek are being studied to illustrate the impact of a typical suburban development (horse track, freeway, and industrial center).

A combined scientific and land-use planning analysis of a part of the San Francisco Bay region is being prepared as a culmination of geomorphic studies begun in 1971. The analysis is based on a four-step procedure that defines the relations among terrain properties, land-use activities, and erosional problems. The four steps are: (1) Identification of land-use activities, (2) collation of the critical physical factors that control land-surface stability, (3) mapping of erosional and depositional features, and (4) production of a matrix relating land-use activities to erosional and depositional province disturbance potential. Study is part of the USGS-HUD San Francisco Bay Region Study. (Erosion problems and human activity).

Sediment yield and water-quality conditions in an urbanized basin and two relatively unurbanized subbasins will be monitored to determine changes caused by urbanization. Study is being made in cooperation with Santa Clara Valley Water District.

Central Coastal Subregion

The purpose of a study in Monteray County is to determine the frequency of distructive mudflows in the Big Sur area of Monterey County, California. The dating of the mudflow events is being done by dendochronological methods and by radiocarbon dating of woody material entrained in mudflow deposits.

The sediment budget of a small estuary (Morro Bay) is being studied to determine the relative contributions of fluvial, littoral, and eolian sediment-transport mechanisms. The study is being done in cooperation with the San Luis Obispo County and Cities Area Planning Coordinating Council.

South Coastal Subregion

Sedimentation in the Santa Rita Creek and Arroyo Grande Basins

The objective of this study is to summarize available suspended-sediment and total-sediment data and to estimate long-term sediment yields. The work is being done in cooperation with San Luis Obispo County.

The objectives of the Poway Valley urban hydrology project is to assess the magnitude of erosion during a period of urbanization and evaluate an erosion-control program if undertaken by the county. Work is being done in cooperation with San Diego County.

A study is being conducted to determine the daily discharge of sands in Santa Margarita, San Luis Rey, Santa Ana, Santa Clara, Ventura, San Diego, and Tiajuana Rivers; Sespe, San Diego, San Juan, and Calleguas Creeks; and Arroyo Trabuco. Work is being done in cooperation with local agencies.

South Lahontan Subregion

Bank erosion rates will be studied in relation to riverflows and the removal of riparian vegetation along the Owens River. The project also seeks to determine the effects of higher flows on transport rates of spawning gravels in the Owens River and in a proposed bypass channel. The California Department of Fish and Game and the Los Angeles Department of Water and Power, the cooperators on this project, are in need of the data to preserve one of the few remaining wild brown trout fisheries in California.

Colorado Desert Subregion

On urban hydrology study in Perris Valley is to determine (1) The basic hydrologic character of the area under present conditions, (2) effects of urbanization on runoff characteristics, sediment yield, and water quality, and (3) insofar as possible, the relation of different land uses to observed changes. The results of these studies will be used in future planning in other areas in Riverside County. Work is being done in cooperation with Riverside County Flood Control and Water Conservation District.

Water Resources Division sediment reports pertaining to the California-South Pacific Region that were published or released to the open file by the Geological Survey in the 1974 calendar year are listed below. Most of the published and open-file reports may be inspected at Geological Survey offices. Published reports can be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402, or from the Geological Survey Public Inquiries Offices in San Francisco and Los Angeles.

Brown, W. M., III, 1973, Streamflow, sediment, and turbidity in the Mad River basin, Humboldt and Trinity Counties, California: Menlo Park, Calif., U.S. Geol. Survey Water-Resources Inv. 36-73, 57 p.

_____ 1973, Erosion processes, fluvial sediment transport, and reservoir sedimentation in a part of the Newell and Zayante Creek basins, Santa Cruz County, California: U.S. Geol. Survey open-file rept., 31 p.

Brown, W. M. III, and Jackson, L. E., Jr., 1974, Sediment source and deposition sites and erosional and depositional provinces, Marin and Sonoma Counties, California: U.S. Geol. Survey Misc. Field Studies Map MF-625, 2 map sheets, pamph. (1975).

Knott, J. M., 1974, Sediment discharge in the Trinity River basin, California: Menlo Park, Calif., U.S. Geol. Survey Water-Resources Inv. 49-73, 56 p.

Kroll, C. G., 1973, Sediment discharge in the Lake Tahoe basin, California, 1972 water year: U.S. Geol. Survey open-file rept., 33 p.

Kroll, C. G., 1974, Sediment discharge in the Lake Tahoe basin, California, 1973 water year: U.S. Geol. Survey open file rept., 74-259, 65 p.

_____ 1975, Estimate of sediment discharges, Santa Ana River at Santa Ana and Santa Maria River at Guadalupe, California: Menlo Park, Calif., U.S. Geol. Survey Water-Resources Inv. 40-74, 18 p.

Limerinos, J. T., and Smith, Winchell, 1975, Evaluation of the causes of levee erosion in the Sacramento-San Joaquin Delta, California: Menlo Park, Calif., U.S. Geol. Survey Water-Resources Inv. 28-74, 53 p.

Scott, K. M., and Williams, R. P., 1974, Erosion and sediment yields in mountain watersheds of the Transverse Ranges, Ventura and Los Angeles Counties, California--Analysis of rates and processes: Menlo Park, Calif., U.S. Geol. Survey Water-Resources Inv. 47-73, 66 p.

SOIL CONSERVATION SERVICE

1. Studies of sediment damages and determination of sediment yields were made for work plans in the following watersheds:

a. Public Law 566

Major Drainage	Watershed	Stream	County(s)	State(s)
Colorado River	McCoy Wash	McCoy Wash	Riverside	California
San Joaquin River	Tehachapi Cr.	Tehachapi Cr.	Kern	California

b. River Basin Investigations

Major Basin	Basin Reported	State(s)
San Joaquin River	San Joaquin River	California

c. Resource Conservation and Development

Project Name	County(s)	State(s)
Cal-Neva (Davis Creek Project)	Modoc	California

2. Sedimentation Surveys - A system of 15 ranges and permanent monuments have been set up on Mustang Reservoir in Merced County, California. The reservoir is one of those included in the Soil Conservation Service's National Reservoir Study.

ALASKA REGION

CORPS OF ENGINEERS

North Pacific Division

Alaska District

a. The sedimentation study for the Chena River Lakes Project was terminated in June 1974, because sufficient data required for sediment rating curve determination had been collected.

b. An interpretative report on sediment content and circulation patterns in the Anchorage Harbor area was being written by the Coastal Engineering Research Center for data collected in calendar year 1973. The Waterways Experiment Station is using the same data for the report on dredging problems which will be submitted to the District early this year.

c, At Dillingham Harbor, sampling was continued at the sill over several tidal cycles until November 1974. The samples were analyzed in the District laboratory for sediment concentration, size distribution, and salinity. The results were forwarded to CERC for inclusion into a mathematical model.

GEOLOGICAL SURVEY

Special Studies

Trans-Alaska Pipeline System

Erosion surveillance along the trans-Alaska pipeline was continued. The purpose is to monitor channel erosion at selected sites along the pipeline route from Prudhoe Bay to Valdez. Twenty-four stream-crossing sites were revisited in 1974. Construction of a haul road from the Yukon River to Prudhoe Bay has altered stream channels. Alterations include gravel excavation, stream diversions and bridge contractions with channel bed scour. Moderate glacier-damned lake outburst floods occurred on the Tsina and Tazlina Rivers but did not cause significant scour at the pipeline crossing sites. Low altitude vertical aerial stereophotography was obtained during low flow along the pipeline route. Channel cross sections were resurveyed. The data collected from the surveys are contained in open-file reports of the U.S. Geological Survey, Water Resources Division, Alaska District.

Scour at Bridge Openings

An open-file report, "Scour at bridge openings in Alaska," by Vernon W. Norman is in the final stages of review.

Arctic Subregion

As part of the TAPS (Trans-Alaska Pipeline System) project to collect background information on streams along the proposed oil-pipeline route, sediment continued to be collected periodically from the Kuparuk River near Deadhorse and the Putuligayuk River near Deadhorse.

Yukon Subregion

The cooperative program with the U.S. Corps of Engineers was continued through June 1974 with periodic suspended-sediment sampling at the Little Chena River near Fairbanks and the Chena River near North Pole. The information from these two sites is being used in the Corps of Engineers design of flood protection projects for the city of Fairbanks.

Periodic suspended-sediment sampling was continued through August 1974 at the Tanana River at Nenanaas part of the National Stream-Quality Accounting Network.

Four other periodic turbidity and/or sediment stations were continued in operation as follows:

Salcha River near Salchaket
Tanana River near Tanacross
Trims Creek near Rapids
Yukon River at Eagle

Southwest Subregion

As part of an on-going reconnaissance program miscellaneous samples were collected from East Creek near Dillingham and Snake River near Dillingham.

South Central Subregion

A cooperative program with the U.S. Corps of Engineers was initiated for the collection of periodic suspended-sediment samples on the Susitna River at Gold Creek and the Susitna River near Denali. This data will be used to update the Corps of Engineers study for proposed hydraulic power dam sites in the Susitna River Basin.

Collection of periodic suspended-sediment samples was continued on Talkeetna River near Talkeetna, as part of the Hydrologic Benchmark Program.

As part of the TAPS project, sediment data continued to be collected periodically from the following:

Gulkana River near Sourdough
Little Tonsina River near Tonsina
Lowe River near Valdez
Tazlina River near Glennallen

Throughout the rest of the subregion, suspended-sediment and/or turbidity data were obtained periodically at the following stations:

- Copper River near Chitina
- Glacier Creek at Girdwood
- Kenai River at Cooper Landing
- Kenai River at Soldotna
- Knik River near Palmer
- Maclaren River near Paxson
- Skwentna River near Skwentna
- Spruce Creek near Seward
- Trail River near Lawing
- Tutka Lagoon Creek near Homer

Southeast Subregion

The cooperative program with the U.S. Forest Service was continued in the Kadashan Barometer Watershed. The PS-69 sediment samplers continued to have mechanical problems which resulted in considerable loss of data. Periodic suspended-sediment and turbidity samples were collected at the following stations:

- Hook Creek near Tenakee
- Hook Creek above tributary near Tenakee
- Kadashan River above Hook Creek near Tenakee
- Tonalite Creek near Tenakee

HAWAII REGION

GEOLOGICAL SURVEY

Hawaii Subregion

Monthly sediment sampling of Wailuku River at Piihonua, Hawaii, was started as part of the Geological Survey's National Stream-Quality Accounting **Network** (NASQAN) program.

Data collection continued at the hydrologic Benchmark station, Honolii Stream near Papaikou, Hawaii.

Maui Subregion

Monthly sediment sampling of Kahakuloa Stream on Maui began as part of the NASQAN program.

Molokai Subregion

Monthly sediment sampling of Halawa Stream on Molokai began as part of the NASQAN program.

Oahu Subregion

Daily sampling of suspended-sediment was discontinued at:

Kalihi Stream at Kalihi, Oahu
Kamooalii Stream at Kaneohe, Oahu.

Data collection continued at the sampling sites:

1. Moanalua Valley in cooperation with the State of Hawaii, Department of Transportation.
2. Waikele Basin as part of the NASQAN program.
3. Kipapa, Opaeula, and Kalihi forest reserve areas in cooperation with the U.S. Forest Service.
4. Kamooalii Stream below Kuou Stream, near Kaneohe in cooperation with the U.S. Army Corps of Engineers.

Monthly sediment sampling of Kalihi Stream at Kalihi began as part of the NASQAN program.

Kauai Subregion

Monthly sediment sampling of Waimea River, Kauai, began as part of the NASQAN program.

GEOLOGICAL SURVEY

Three (3) daily sampling sites were operated. Periodic samples (about every two months) were collected from 48 additional sites. Determinations were made of the specific conductance and suspended-sediment concentration in the samples. About five (5) particle-size analyses were made.

Records published: those prior to 1968.

Records in process of publication:

1. The 1968-1972 records, including data at six daily stations, have been assembled for publication.
2. The 1973 records, including daily records at three stations, have been computed and are being compiled for publication.
3. Miscellaneous records for 1974 have been computed and processed for publication. Records at three daily stations are being compiled.

Special Studies

Suspended-sediment data were collected about twice a month at the tributaries and outlet of Loíza reservoir, as part of a comprehensive study of the water quality in the reservoir. About 45 bottom sediment samples were also collected and particle-size analyses were performed. The sieve-pipet methods were utilized.

Suspended-sediment samples were collected as part of the San Juan lagoon's project. Hourly suspended-sediment samples were collected during two 24-hour studies at 4 and 7 sites respectively. Suspended-sediment loads at these sites were computed. Size analyses were made from about 75 bottom sediment samples collected from the 4 lagoons.

FOREIGN ACTIVITIES

BUREAU OF RECLAMATION

Field inspections were made of various areas in Abu Dhabi, United Arab Emirates for the purpose of determining the best method of conserving water for agricultural development. The inspections included observations of sedimentation features. A report, "Collection of Mountain Runoff," December 1974, was published as a result of the field inspections.

Sedimentation aspects described in a report prepared on the development of the Senegal River, Africa, were reviewed.

LABORATORY AND OTHER RESEARCH ACTIVITIES

AGRICULTURAL RESEARCH SERVICE

Research studies and investigations of erosion and sedimentation have progressed during 1974. Agricultural, urban, construction and surface mining activities are under study at twenty locations. Pollution by sediment and the relationship of agricultural chemical transport to sediment movement are being investigated. Research findings for locations in Arizona, Idaho, Iowa, Indiana, Minnesota (2), Mississippi, Missouri, Ohio, Oklahoma (2), Texas and Washington State are presented.

ARIZONA

1. At the Southwest Watershed Research Center, efforts have continued to develop the Manning open-channel flow relation with the Laursen sediment transport relation as it applies to ephemeral streams in the Southwestern United States. For example, it has been observed that an ephemeral stream's sediment concentrations can be closely estimated using the Laursen transport relation if bed material composition is known. However, sediment size distributions of material in the stream bed greatly influence predicted sediment yeilds. The variability in the bed material has been observed to change temporally and spatially and this variability has not been satisfactorily related as yet to flow sequences or sediment source variability.

2. Thunderstorm rainfall variability is a major limitation of the Universal Soil Loss Equation's applicability to semiarid rangeland erosion prediction. Rainfall erosion indices (EI) for two semiarid watersheds were compared to an estimating method presented by Ateshian (Proc. ASCE, 100(IR3), 1974). The results indicated that Ateshian's method, proposed to predict EI from precipitation data in the Western United States, underestimates actual EI values of thunderstorm rainfall. Measured EI indexes on individual storms have been as large as 300 units.

3. A significant effort is continuing to automate sediment sampling. For example, a total-load, time-based, automatic sediment sampler was developed to evaluate sediment yields from small watersheds (<100 acres) and relate these yields to hydrograph stages. The sampler is designed to obtain approximately 1/2 gallon samples at remote sites where power is provided from 12-volt batteries recharged with a solar generator. The Research Center is also testing a density cell at one of the Walnut Gulch flumes in hopes of obtaining continuous sediment

concentration information. The results appear encouraging although fairly expensive.

For additional information contact Dr. Kenneth G. Renard
Research Leader
USDA-ARS-Western Region
Southwest Watershed Research Center
442 East Seventh Street
Tucson, Arizona 85705

IDAHO

Lead Sentence:

Results of sediment yield studies at the Northwest Watershed Research Center, Boise, Idaho are summarized in the following table for 1965-1973:

Water Year	Sediment Yield (tons/year)						
	Salmon Creek	Macks Creek	Summit Basin	Whiskey Hill	Tollgate	Upper Sheep	Reynolds Mt.
1965	---	---	---	81.17	---	---	---
1966	---	---	---	.94	---	---	---
1967	---	---	---	8.79	14675	---	23.8
1968	685	709	247	2.59	2626	---	3.7
1969	9607	7124	228	18.10	16913	---	20.5
1970	5414	4145	0	9.30	9513	1.6	37.8
1971	5732	6624	0	15.50	12836	16.2	21.6
1972	13728	6146	.7	16.90	11610	11.2	22.9
1973	1779	1373	3.4	.24	1911	14.7	11.5
Watershed Acres	8990	7846	205	119	13453	63.4	100
Tons/Acre/ Yr. Average	.685	.555	.390	.143	.744	.172	.203

1. **The major sediment-producing events on the Reynolds Creek Experimental Watershed are associated with prolonged rain, rain-on-snow, frozen or saturated soil, high humidity, and strong warm winds, which cause rapid snowmelt and peak streamflow. January and December are usually the months of peak streamflow and sediment yield.**

2. **Average bedload transport, determined with Helley-Smith samplers, was**

21 percent of the total in several watershed streams. Calibration of bedload samplers for use in gravel-bed streams is progressing at the Center.

3. For additional information contact Clifton W. Johnson, Box 2700, Boise, Idaho 83701.

Iowa

1. **Sedimentation activities by the ARS Watershed Research Unit (Columbia, Missouri) centered on four research watersheds near Treynor, where sediment discharge and associated hydrologic data have been monitored since 1964. Primary purposes for operation of these watersheds have been to quantify sediment yields from sheet-rill and gully-channel erosion sources; to study gully erosion causes and processes; to define variables affecting the overland movement of eroded soil to downslope positions; to evaluate (on a field basis and for individual storms) the adequacy of the Universal Soil Loss Equation; to evaluate (on a field basis) the conservation effectiveness of various terrace systems, minimum tillage practices, and grass pasture; and to monitor the movement of nitrogen and phosphorus (vertically in the soil profile and overland to channels).**

   Brief descriptions of recent developments follow:

   The level-terrace system tested from 1964-1971 for continuous-corn cropping of the erodible, steeply sloping lands of southwest Iowa is ideal for erosion control but is not widely accepted because of construction and maintenance costs and farmability problems due to modern wide-row machinery. Preliminary results are available for alternative conservation systems that were initiated in 1972. These are (1) a combination system of wide-spaced terraces with subsurface drainage of ponded water and a mulch-tillage practice (on a 150-acre field) and (2) mulch-tillage conservation (on an adjacent 107-acre field).

   A regional study of channel enlargement history, since settlement about 1840, of streams in southwest Iowa and northwest Missouri where deep loessial soils exist shows that there are few natural restraints to continued downcutting and widening.

   Stability of vertical loess streambanks, as affected by changes in soil strength and soil stresses, was studied in a field modeling experiment. The soil-water content of a 60-foot length of streambank was gradually increased until failure resulted. Instrumentation included piezometer and tensiometer monitoring of the soil matrix during wetting, in situ shear tests, a comprehensive soil sampling program, and a mapping of the streambank surface during the failure sequence.

The pattern of soil movement from cultivated field slopes, and its redistribution along the lower slopes, is being measured at several locations. Closely controlled photogrammetric surveys were made during a 5-year interval when sediment yields totaled 36 tons per acre, and total soil movement was more than 60 tons per acre.

Development of a sediment yield model, based on Treynor watershed sediment yield measurements, the Universal Soil Loss Equation, and concepts gleaned from other researchers, was continued. The erosion process was mathematically described by a model that utilized the continuity-of-mass transport equation and relationships for inter-rill sediment detachment and the interplay between rill detachment and sediment load.

2. Storm runoff losses of nitrogen and phosphorus from the four watersheds near Treynor were measured from 1969 through 1974. Losses of these plant nutrients were highly dependent on the amounts of runoff and sediment lost. Level terraces were very effective in controlling surface runoff, sheet-rill erosion, and associated losses of N and P as compared with contoured-corn watersheds. Concentrations of nitrogen associated with sediment were similar for contoured-corn watersheds annually fertilized with N at rates of 174 and 449 kg/ha.

   Sampling and calculation procedures were evaluated for quantifying storm discharges of sediment-associated Kjeldahl N and $NaHCO_3$-extractable P. The arithmetic mean concentration of samples collected during major runoff (defined for these 80-acre watersheds as greater than 0.23 cubic meter per second), multiplied by the quantity of sediment discharged, compared favorably with a standard integration procedure for determining storm discharges of sediment N and P. The arithmetic mean nutrient concentration of three samples collected during major runoff was also adequate for determining storm discharges of these sediment-associated nutrients. A storm-to-storm change in concentration of sediment-associated Kjeldahl N and $NaHCO_3$-extractable P was not evident, indicating that sampling of every event was not required to determine the cropping season discharges of these nutrient constituents.

For additional information, contact R. G. Spomer, P.O. Box 896, Council Bluffs, Iowa.

Indiana

Activities at Lafayette, Indiana included the following:

1. Guides for estimating potential cropland sediment yield on either a Land Resource Area or individual field basis, and for selection of control-practice alternatives, are being prepared in manual form. This work is part of an effort by a national multi-disciplinary committee to prepare a manual for development of guidelines to control water pollution by sediment-transported chemical compounds from cropland areas. The manual is scheduled for completion by June 1975.

2. Studies indicated that the general relation of the rainfall erosion index (EI) to rainfall-intensity-frequency data is expressed by the formula, $EI = 27.38 P^{2.17}$, where P = the 2-year, 6-hour rainfall in inches. EI maps for the 11 western states and Hawaii were developed on the basis of this relationship. The EI values in the Northwest must be adjusted upward for effects of runoff from thaw and snowmelt before they can be used to represent the rainfall erosivity factor, R, in the soil loss equation.

3. The technique proposed in 1973 for evaluating the soil loss equation's topographic factor (LS) on irregular slopes was simplified and published.

4. A laboratory study of the characteristics of deposition of soil particles from shallow overland flow was initiated, in cooperation with the Purdue University Agricultural Engineering Department. The relation of deposition of various particle sizes to the rate, velocity and depth of flow, rate of change in slope steepness, and sediment load is under investigation.

5. The hydraulics of shallow flow over eroded soil surfaces were investigated in laboratory experiments as a part of fundamental investigations of soil particle detachment, transport and deposition on upslope areas. In a study of flow over a full-size replica of an eroded rill, the spatial variation of velocity was normally distributed around a mean velocity that could be described by either a Manning type equation, relationships based on the Prandtl-von Karman theory, or equations based on separation of the friction factor into components due to grain roughness and to form roughness. The standard deviation of the velocities increased with discharge for a 3 percent slope and decreased with discharge for 6 and 9 percent slopes. Average shear stress due to grain roughness was directly proportional to the 0.6 power of discharge and to the 1.4 power of slope steepness. Instantaneous sheer stress fluctuated greatly with time. Its probability density distributions were positively skewed and were described by either Pearson Type III or lognormal distributions.

6. In a field study, rill erosion was directly proportional to the difference between flow rate and a critical discharge value. Protecting the soil surface and the flow in the rill from direct raindrop impact significantly reduced rill erosion.

7. Research efforts to define slope-length limits for effective use of contouring and various conservation tillage practices is continuing, but the field tests had to be suspended in 1974. The objective is improved terrace spacing design criteria.

For additional information contact W. H. Wischmeier or G. R. Foster, ARS, Agricultural Engineering Department, Purdue University, West Lafayette, Indiana 47907.

Minnesota

The following research is being conducted at the North Central Soil Conservation Research Center at Morris, Minnesota:

1. Indoor plot studies utilizing simulated rainfall are being conducted on a 5- by 15-foot plot consisting of two slope segments. Three different soils are being investigated singularly and in combination on the different slope segments to determine the interaction between soils of different erodibilities and single soils on different slopes. Depositional patterns on the lower slope segments are also being measured and evaluated.

2. A watershed erosion model is being tested on three Southwest Iowa watersheds over their periods of record of well-sampled storms. Initial indications are that considerable improvements are being made over the method used previously. Objective criterion data are being analyzed to determine the degree of improvement.

3. The particle-size distribution of eroded material from three different soils with widely varied textures has been determined and compared with the particle-size distribution of the original soil matrix. Under conditions of simulated rainfall, eroded material from rill and interrill areas was collected and analyzed separately. Compositive equations are being developed for the gross erosion and the rill and interrill components. These equations are being tested using eroded soil data from rainulator runs on ten additional soils common in the Upper Midwest.

4. Hydrological, erosional, and chemical data continue to be collected from two small watersheds, one agricultural and the other forested. Data collected, in addition to being valuable in assessing agriculture's contribution to water pollution, are being used to help verify an agricultural transport model.

5. Work is continuing on mechanics of soil detachment by raindrops. This includes analyzing methodology for studying the process in the laboratory such as effect of size, shape and depth of containers. Studies of the effect of pore water pressure, size distribution of soil particles and soil conditioners on soil detachment, surface sealing and infiltration is continuing.

For additional information contact R. F. Holt, USDA-ARS, Morris, Minn. 56267.

Current research at the St. Anthony Falls Hydraulic Laboratory is on the local scour caused by a cantilevered spillway pipe discharging onto a bed of uniform size, cohesionless sand. Variables partly investigated are bed material size, effect of pipe elevation relative to the tailwater elevation, and effect of pipe slope. The temperature is maintained constant at 20° C. Dimensionless discharges $Q/\sqrt{gD^5}$ vary from 0.5 to 5.0. (Q is the discharge, g the acceleration due to gravity, and D the pipe diameter.) The flow is interrupted and the scour hole is measured at 10, 31.6, 100, 316, 1000, 3162 and 10000 minutes after the beginning of each test. Preliminary analyses of some of the scour hole data indicate that the scour hole configuration can be reduced to a single pattern for all discharges and times if suitable normalizing parameters are chosen. For additional information contact Fred W. Blaisdell, Hydraulic Engineer, North Central Region, ARS, USDA, St. Anthony Falls Hydraulic Laboratory, Third Avenue SE. at Mississippi River, Minneapolis, Minnesota 55414.

Mississippi

Current research activities at the USDA Sedimentation Laboratory at Oxford, Miss. include: Flume studies of sediment transport; utilization of radioactive isotopes; development of equipment and instrumentation for sedimentation research; characteristics of cohesive and non cohesive materials; hydraulic model studies of low drop structures; the role of sediment in transporting agricultural chemicals; erosion and sediment and chemical yield and transport in plots and small watersheds; channel stabilization methods and techniques; reservoir sedimentation; accumulation of radioactive fallout in reservoir sediments.

1. Sediment yield from a Mississippi Delta watershed (0.2 percent slope) farmed in cotton averaged 13 tons per acre per year for two years with rainfall 30 percent greater than normal. A strong relationship exists between pesticide and plant nutrient yields in runoff and erosion of the clay and organic matter fractions of the soil. These data indicate the need for improved erosion control practices on Delta lands to reduce pollution hazards from both sediment and farm chemicals.

2. Data from erosion plots in northern Mississippi showed that the no-till system reduced soil losses from 7 to 4 tons per acre from conventionally tilled corn silage and grain, respectively, to 0.2 tons per acre over a 6-month period. Soil loss in 1973 from conventional and no-till soybeans was 13 and 0.2 tons per acre, respectively. Total losses of N and P from no-till soybeans were 4.2 and 2.5 pounds per acre, respectively, compared to 41.4 and 15.7 pounds per acre from conventional tillage. Annual sediment-COD in runoff was reduced from 1050 to only 90 pounds per acre by no-till practices.

3. Trap efficiency studies on a reservoir in the Midwest indicate that appreciable amounts of P can be trapped by reservoir systems but the amount trapped depends on the form of P. The percentages trapped of soluble-PO_4-P, sediment total P, and exchangeable P (by isotopic dilution) were 55, 72, and 82 percent, respectively. Outflow loadings of soluble organic and hydrolyzable P were two and three times greater, respectively, than inflow loadings.

4. Soluble N and P losses in the 1973 water year were essentially independent of runoff from pine watersheds in northern Mississippi and were only 3.7 and 0.04 kg/ha, even though rainfall was 40 percent above average. They should pose no great environmental hazard. Storm runoff had to exceed 1.8 cm before soluble NH_4-N and P yields in runoff exceeded input by rainfall.

5. Natural sand bed channels in the 117 sq. mi. Pigeon Roost Watershed in Mississippi contributed 12 to 44 percent of the total measured sediment yield. Bed contribution was about two times that of the bank. Dredging the channel increased mean velocities and channel erosion rates of 61,000 tons/year/mile.

6. Techniques were devised for combining independently obtained rill and interrill erosion data for evaluation of field erosion. Particle size and the percentage of citrate-bicarbonate-dithionite (CBD) extractable Fe, Al, and Si were significant erodibility parameters of the high-clay subsoils studied.

7. Laboratory hydraulic model studies of low drop (4 ft.) loose rock structures with preformed energy dissipation pools were conducted. The studies showed that baffle blockes could destroy undulating waves that developed in the energy dissipation pool. The performance of constructed prototype structures based on the model studies will be used for verification.

8. Sedimentation data from approximately 800 reservoirs, located throughout the United States, with drainage areas of one square mile, or larger, indicate the average sediment yield per unit of drainage area is inversely proportional to the 0.2 power of the drainage area.

9. Measurements over a 3-year period indicate the sediment trap efficiency of reservoir, Y-5-122, in Marshall Co., Mississippi, is about

90%. Inflow of sediment averaged 4.5 tons per year per acre.

10. A study of the nutrient content of sediments in 12 reservoirs in the North Central States showed no enrichment of the sediments in total N, total C, or in readily available organic or inorganic P as compared to the surface soils of the contributing watershed.

11. Sixteen months of reflected solar radiation data from waters of reservoirs in north Mississippi showed a significant linear correlation, $r = 0.90$, between the percentage of reflected solar radiation and suspended solids in the surface water at 800 nm. Data were collected over the range 400-1500 nm using an ISCO Model SR spectroradiometer.

12. Equilibrium adsorption, K_d, values for Cd ions in a sediment-water system increased as the pH of the Cd solution increased from 2.0 to 4.0. Above pH 4.0, Cd ions are practically insoluble so that meaningful adsorption isotherms can only be considered for systems where the pH is less than 4.0. In most sediment-water systems Cd ions will be adsorbed strongly by the sediment and any subsequent release would occur only if the system pH were to fall below pH 4.0.

13. Comparative studies on two adjacent north Mississippi agricultural reservoirs showed that suspended sediments had a pronounced effect on water temperature and heat budget. Radiometer measurements indicated considerably more solar energy was reflected from surface waters containing sediments than from relatively clear waters.

For additional information contact Donn G. DeCoursey, USDA Sedimentation Laboratory, P. O. Box 1157, Oxford, MS 38655.

Missouri

1. **Sedimentation research by the ARS Watershed Research Unit (Columbia, Missouri) on three central Missouri reservoirs was continued through 1974. This research included the measurement of inflow and outflow of sediment to determine trap efficiency on a storm basis. One of these reservoirs was resurveyed to check the amount of deposition and distribution throughout the reservoir.**

   Statistical analysis of 14 to 19 storms on each of the three reservoirs showed that, for an individual reservoir, trap efficiency was correlated with detention time and storm runoff volume and rate. To correlate the trap efficiency of all three reservoirs, capacity, sediment yield, and drainage area were added to the analysis to give the most significant equation.

2. **To improve the quality of water stored in small reservoirs, a bottom-withdrawal spillway was designed and installed on a fourth reservoir. This spillway is being studied to see what effect it has on the water quality in this reservoir and downstream. This spillway is expected to have low trap efficiency because it eliminates the "dead" storage**

below the spillway intake which, in turn, reduces the detention time of storm runoff since density currents are discharged as soon as they reach the lowest point in the reservoir.

3. **Field plot studies have shown that soil cover and no-till planting of corn are highly effective in reducing sediment and sediment nutrient losses from claypan soils. These studies are being continued at the Midwest Claypan Experiment Station near Kingdom City, Missouri, to determine the interrelationship of various soil management practices on losses of soil, water, and agricultural chemicals for intensive corn and soybean cropping.**

For additional information, contact H. G. Heinemann, 207 Business Loop 70 E., Columbia, Missouri.

OHIO

1. Water quality studies at the North Appalachian Experimental Watershed Research Center led to the development of a sediment sampler for measuring erosion from watersheds in the 50- to 300-acre size range. The pumping sampler delivers a single integrated, representative sample of the total measured runoff from which the amount of erosion can be calculated and representative samples of the liquid and solid phases of runoff can be obtained for qualitative analyses. A modified wedge-shaped vane revolves through the pumped stream, delivering a subsample to a refrigerated container every 5 minutes. Proportionality is obtained by automatically moving the pump outfall over the wider, slower moving part of the revolving vane during high runoff stages. At lower stages, only the narrow tip of the vane passes through the pumped flow, collecting a smaller subsample representative of the flow at that stage. The portion of the total runoff that is collected can easily be varied through a wide range. For additional information, contact W. M. Edwards, USDA, ARS, NCR, Box 478, Coshocton, Ohio 43812.

Oklahoma

The Agricultural Water Quality Management Laboratory, Durant, Oklahoma, is studying relationships of sediments to water quality in farm ponds of Bryan County, Oklahoma. Soil textures on the watersheds range from fine sandy loam to clay (see the following table). Average annual precipitation is approximately 39 inches. Preliminary investigation of 3 farm ponds indicates a relatively slow rate of average, annual sedimentation. The average length for several cores from each pond show that annual sedimentation ranges from 1 to 3 centimeters. The particle-size distributions of pond sediments tend to reflect those of soils in their respective watersheds and progressively higher percentages of finer particles are deposited with distance from runoff inlets toward the deeper waters. On a given watershed some ponds are persistently turbid while others are essentially clear most of the time. Preliminary investigation indicates that the persistently turbid ponds may maintain a slightly lower pH, a lower dissolved solids content (particularly of calcium), and they may be subjected to higher levels of selective erosion of finer particles from their watersheds. More data are needed to clarify these postulations. For additional information contact Oliver R. Lehman, USDA, Water Quality Management Laboratory, Durant, Oklahoma 74701.

Description, Selected Farm Ponds, Bryan County, Oklahoma, 1975.

				Watershed		
Pond No.	Age yrs.	Size acres	Max.Vol. ac. feet	Soil	pH range	Use
1*(Clear)	14	3.3	16.5	f.s.l.	5.5-6.5	Grass & cultivated
2*(Turbid)	18	1.2	6.2	f.s.l.	5.5-6.5	Grass
3 (Clear)	37	3.8	23.0	clay	7.4-8.4	Grass

*: On similar watersheds.

1. Investigations of sedimentation processes in the Washita River basin by the Southern Great Plains Research Watershed, Chickasha, Oklahoma, was continued in 1974. Suspended sediment data were collected from 9 mainstem and tributary stations, 9 subdivided watersheds, and 13 unit source watersheds. About 40 channel cross sections were resurveyed during the year. Sedimentation ranges were placed on 3 newly-built floodwater retarding reservoirs, making a total of 13 reservoirs under observation. Ranges were resurveyed on only one reservoir during the year.

2. Average annual sediment yields from the above watersheds were similar to those published in the 1973 report. Properly grazed rangeland sites averaged less than 1/4 ton per acre per year (T/A/yr) and the overgrazed sites averaged about 5 T/A/yr. One gully watershed is yielding about 340 T/A/yr. Sediment yields for the larger watersheds were about 1/4 T/A/yr for the watersheds where the geology is entirely sandstone and 1/2 T/A/yr for those watersheds where the geology is a mixture of sandstone, siltstone, and shale.

3. Work is continuing toward the development of mathematical models to predict sediment yield from watersheds. Results from some of the work is encouraging; however, no models are finalized. One gully model predicts storm sediment yield well with storm discharge alone. A scheme to predict discharge into gullies from incremental rainfall intensities and predicted soil moisture looks promising. A gully model is most important in this area because on some watersheds half the total yield appears to be from gullies. Preliminary sediment modeling work on unit source and subdivided watersheds indicates that a weighted 15-minute precipitation factor accounts for 40 to 80 percent of the variability in storm sediment yields. However, a runoff factor accounts for 70-90 percent of the variability in storm

sediment yields. This leaves very little of the variability to be accounted for by other factors.

4. Two tributary watersheds have been modeled on an individual basis. This approach should allow better definition of effects of variables such as rainfall energy, rainfall intensity, antecedent moisture index, and annual cover cycle. The effect of these variables might be masked if a universal model was first attempted where slopes, soil types, and land use were included. With regressional techniques, 19 variables of flow, precipitation, rangeland cover, and antecedent precipitation were related to storm sediment yields. Analysis of West Bitter Creek data showed that sediment yield was strongly related to surface runoff, r = 0.97, and no improvement in the correlation was gained by adding other variables. On East Bitter Creek, however, a predictive model based on surface runoff, although good for small and intermediate-sized events, was poor for a very large storm. Great improvement was gained for this watershed by adding the variables: flow duration, rangeland cover, 1- and 2-year antecedent precipitation, and the product of rainfall energy and the maximum 15-minute intensity.

5. Examples of 6 types of bed-material transport procedures were studied for accuracy predictions. About 200 sets of data for each of 4 streams were used. The procedures included Schoklitsch (discharge type), Straub (tractive force), Laursen (relative roughness), Colby (velocity), Yang (stream power), and Toffaleti (quasi-theoretical). Results showed Schoklitsch predictions were much too low by a factor of 5. The bulk of predictions by other methods, although agreeing fairly well with each other, were off from measured values by a factor of 2. Therefore, these procedures will have to be altered for use in the Southern Great Plains.

For additional information contact:

Dr. M. H. Frere, Location Leader
USDA, ARS, SR
Southern Great Plains Research Watershed
Box 400, Federal Building
Chickasha, Oklahoma 73018

Texas

Blackland Conservation Research Center, Temple

(1) Long-term sediment yields were used to determine man's effect on sedimentation in a rural environment. Sediment yields for floods of five different frequencies were computed using the modified universal soil loss equation to determine a sediment frequency curve. Man's effect on sediment yield is expressed by the crop management and erosion-control factors of the universal equation. The long-term effect can be determined for any land management system by integrating the sediment frequency curve to obtain average annual sediment yield. Since only five different storms are needed to define the sediment

frequency curve, many alterntive land use and management systems can be considered. Changes in the frequency curve and the average annual sediment yield are directly proportional to changes in C and P, because C and P appear linearly in the modified universal soil loss equation. Thus, it is not necessary to recompute the frequency curve for each cropping and conservation plan. Computational efficiency makes the procedure useful in planning land use and management practices for large watersheds. For additional information, contact J. R. Williams, Blackland Conservation Research Center, P. O. Box 748, Temple, Texas 76501.

Washington

The following research was conducted by the Land Management and Water Conservation Research Unit at Pullman, Washington:

1. A first draft adaptation of the Universal Soil Loss Equation to the Pacific Northwest has been developed. Soil loss data collected from fields in eastern Washington by the Soil Conservation Service over a number of years were used in establishing relationships between soil loss and slope length and steepness. The derived relationships are less severe than either the Zingg or Wischmeier-Smith relationships. End-of-erosion-season rill measurements were used to determine an erosion season equivalent R factor. This was added to the EI determined from precipitation charts for the months of April through November to give an annual climatic hazard value. A relationship including the 2-year, 6-hour precipitation and the December through March precipitation has been proposed to calculate the annual climatic hazard value for other areas with similar climatic influences. The modified equation is being field tested by the Soil Conservation Service.

2. A light-weight, portable, 6-foot wide rill meter has been built and used to accurately measure soil losses from rills from selected field sites at the end of the erosion season. The meter is being used in a study of the effect of slope length and steepness on soil loss as well as a study of the variation of soil loss across climatic belts of eastern Washington and western Idaho. In the latter study, soil loss is measured along a transect line approximately 45 miles long.

3. Runoff plots have been installed on crop land and bluegrass seed fields in eastern Washington to determine the effect of slope length on soil erosion under Palouse conditions, the effect of slope length on the relative magnitudes of rill and sheet erosion, the relative soil losses from different crop covers including grass and fall-seeded wheat, the amount of nitrogen lost in the runoff water, and the influence of grass residues on soil loss in subsequent years of the crop rotation. The 1973-74 winter erosion season data from the

runoff plots on recrop wheat showed very little rilling, yet soil loss was 7 T/acre.

4. Two agricultural watersheds with higher elevation forested upper reaches were manually sampled intensively at two active USGS gaging stations in water year 1974 for the purpose of establishing a water quality datum to determine the influence of changes in land management on water quality, the daily and annual variation in water quality, and the sediment delivery ratio. One watershed was 27.1 sq. miles and the other 132 sq. miles in area. The amount of deposition in the smaller watershed was estimated by on-site measurements and estimates. In water year 1975 the larger watershed was deleted from the study and a USPS 69 automatic pump sampler was installed on the smaller watershed. Several channel cross sections were established for annual measurement to estimate the amount of aggradation or degradation. These data and the estimates of valley deposition will be used to estimate the delivery ratio.

For additional information contact:

Donald K. McCool
215 Johnson Hall, WSU
Pullman, WA 99163

BUREAU OF RECLAMATION

Hydraulic Model Study

A second model study to demonstrate hydraulic backfilling of abandoned coal mines was performed for the Bureau of Mines. The tests were made using the same model box as was used for tests reported in report REC-ERC-73-19. Fine sand with a mean diameter of 0.14 millimeters was used to form the slurry material injected into the simulated coal mine. A model scale of $1^m:48^p$ (1 in the model is equal to 48 in the prototype) was used for most tests. Some tests had a vertical distortion of 3.22. The 8-foot square mine area in the model represented 3.39 acres in the prototype. Report REC-ERC-75-3 "Hydraulic Model Studies for Backfilling Mine Cavities, Second Series of Tests" which gives the results of the model studies, is being printed.

A $1^m:100^p$ scale hydraulic model study of Palmetto Bend Dam to determine the best design of spillway, stilling basin, and approach channel to give the best sediment scour and transport conditions was completed.

A $1^m:48^p$ scale model study of Canyon Ferry Stilling Basin was made to alleviate conditions of coarse bed material being drawn into the basin and scouring the concrete floor.

Three models of Twin Lakes Pumped Storage Powerplant were studied to arrive at an entrance channel design which would reduce disturbance of the fine sediment deposits on the lake's bottom. Disturbing the fine sediments upsets the life cycle of fresh water shrimp - the main source of food for Mackinaw trout in the lakes.

Management Study Team
Control of Turbidity at Construction Sites

The Management Study Team for Control of Turbidity at construction sites continued to assemble information that is helpful to designers, construction engineers, and others concerned with construction projects and environmental problems in maintaining clear water. Information was added to the draft report "Control of Turbidity at Construction Sites."

Three turbidity meters were purchased and are being installed on a test board to check turbidity measurements against sediment concentration by drying and weighing. Turbidity meters are instruments commonly used to indicate sediment pollution in streams.

CORPS OF ENGINEERS

Coastal Engineering Research Center

Information on developments in the field of Sedimentation, Calendar Year 1974:

A. COASTAL WORKS EVALUATION:

Suffolk County, L.I., N.Y.

Beach surveillance of a groin system and beach nourishment by the New York District at Westhampton and Easthampton Beaches is continuing. Aerial photographs of the project areas were taken in 1974. A report is scheduled for completion in FY 76.

Fire Island Inlet, L.I., N.Y.

Surveillance by the New York District of channel dredging, maintenance of jetties, by-passing dredged material and placement of material on a feeder beach for controlling a tidal inlet and erosion of adjoining shores is continuing. A hydrographic survey and aerial photographs of Fire Island Inlet were taken in 1974. A report is scheduled for completion in FY 76.

Hunting Island State Park, S.C.

Monitoring by the Charleson District of beach fill and terminal groin construction project is continuing since renourishment of the beach is planned in calendar year 1975. The replenishment material is to be taken from the offshore shoals at Fripp Inlet, south of the observed area. In 1974 a hydrographic survey was completed including sand samples and photographs depicting erosion along the shoreline. A final report is due in FY 77.

Key West, Florida

The Jacksonville District completed a final evaluation report on the behavior of the beach fill project at Key West, Florida in 1974. This draft report submitted for review, descirbes the characteristics of the sand fill that was used to nourish the beach.

Surveillance of Rock Revetment

The final evaluation report on the behavior of stone revetments at Fort Story, VA and Chesapeake Bay-Bridge Tunnel (Portal Islands 1&3)VA is nearing completion by the Norfolk District. This report is scheduled for completion in FY 75.

North Carolina Beaches

Compilation of the survey data for Masonboro Inlet, Carolina Beach Inlet, Wrightsville Beach, Masonboro Beach, Carolina Beach and other beaches south to Cape Fear has been completed. Problems with the computer program to solve geometrical inlet configurations are still being resolved. Satellite imagery was studied to determine tidal flushing patterns associated with Carolina Beach Inlet and Masonboro Inlet and to monitor the change of shoreline configuration at these inlets and adjoining beaches.

Beach Assessment Studies

The University of Florida completed the monitoring program at Ponce de Leon Inlet in 1974 and a report on the performance of the weir jetty and deposition basin is scheduled to be published in December 1975.

Three Florida Beaches

Fort Pierce, Pompano Beach, and Lido Key were monitored in 1973 and 1974 and CERC is currently awaiting reports from the Jacksonville District on these beaches.

B. OFFSHORE ENGINEERING WORKS AND EFFECTS:

The study resulted in the development of an approximate method for calculating diffraction diagrams for the lee of large, offshore structures. Experiments conducted under the project indicate that the results of the approximate method for calculating diffraction diagrams is sufficiently accurate for most purposes.

Evaluation of Rincon Island, CA on Physical Environment

Rincon Island, Punta Gorda, CA, is an offshore manmade island constructed in 1958. It was the first such island to be built in an open ocean exposure. The island, located in a depth of about 45 feet of water is composed of armor rock and tetrapod revetments enclosing a sand core.

An evaluation of the island's performance in the more than 14 years of its existence show that the revetment has not been damaged by wave attack, that subsidence ranging from about 1/4 foot to 1 1/2 feet has occurred, mainly due to the deterioration of some inferior material in the revetment, that littoral transport has been essentially unaffected, that adjacent bottom topography shown minor changes, and that a large, thriving community of marine organisms has developed in the environment created by the island. A report was published as CERC Technical Memorandum No. 43.

C. DEVELOP FUNCTIONAL/STRUCTURAL DESIGN CRITERIA

Shore Protection Manual

The Shore Protection Manual (SPM) was completed on 1 February 1974; printing of the manual by the Government Printing Office (GPO) was completed in July 1974. Initial distribution was made during August 1974. The SPM was placed on sale to the public by the Superintendent of Documents. As of 31 December 1974, 1700 sets of the three-volume manual have been sold and a second printing by GPO has been scheduled for calendar year 1975.

D. BEACH FILL SEDIMENT CRITERIA

Temporal and Spatial Differences in Grain Characteristics on Natural Beaches

An integrated study of sedimentary features and littoral processes is being made as an approach to the problems of beach sampling, beach fill, sediment transport and beach erosion. Basic data input includes sediment texture for samples taken along profiles extending from the beach through the littoral zone; sedimentary bed form types; basic environmental and hydraulic properties; and sediment transport patterns (from literature, diver observations, support programs). Knowledge of the interrelationship of such properties as well as their temporal and spatial variations is essential in establishing a better understanding of the beach-littoral system and therefore improvement of designs for beach sampling and beach fill.

Study techniques include analysis of both shore-normal textural variations along profiles for each oceanographic seasons and composite textural properties of all samples, as well as analysis of data collected during Nearshore Sediment and Bedform (NSAB) experiments. The experiments are designed to provide much greater detail for beach-littoral zone properties than was available with the former group of data. The NSAB portion of the study should provide greater insight into the properties and working of the littoral system. Consequently, NSAB results may be used to design and compare new survey sampling techniques (PEG-RIST data).

A NSAB experiment was conducted on Lake Michigan at Pentwater in March 1974. Field and laboratory data from the Pt Mugu, CA experiment as well as partial field data for the Lake Michigan experiment are being analyzed with a report in preparation. Laboratory analysis of sediment samples for the second experiment is in progress. Further data reduction and analysis for both experiments is continuing.

Criteria for Selection of Borrow Material for Use in Beach Nourishment

A new mathmatical method for predicting the stability of borrow material used in construction of beach fill was derived in June 1974 and a paper describing the method appears in the conference proceedings. Additional information concerning the use of relatively fine borrow area sands was presented.

E. PROTOTYPE EXPERIMENTAL GROIN

Phase I of the Prototype Experimental Groin steel sheet pile permeable structure was completed 28 June 1974. This permeable groin configuration consists of one row of steel sheet piling with every third piling removed, has been in place 6 months and has not functioned as anticipated. Since that time, (24) wading profiles and (2) hydrographic surveys (May - October) were completed in 1974. The wading survey limits were 600 feet north and south of the groin, while the hydrographic were completed to 3000 feet north and south of the groin.

The profiles indicate that the Phase I permeable groin has not accumulated a beach fillet either north or south of the groin. The time-interval movie film, five wave gage array, and littoral environmental observation (LEO) provide a record of the forces on the test structure.

During 1975, Phase II one parallel row of piling of the same configuration with the one missing pile staggered throughout the length of the groin, will be constructed and analyzed to determine its effect on the shoreline.

F. DATA COLLECTION, ANALYSIS AND REPORT PREPARATION FOR

California Cooperative Studies - Project Surveillance and basic data collected by the Los Angeles District during the period 1970-1972 is being prepared for publication during FY 76.

Texas Coast

Surveys by the Galveston District of 7 inlets and 6 mid points along the Gulf Coast for Calendar year 1973 have been completed and this data will be compared with previous data of the study.

Lake Michigan Littoral Transport Study

The 1973 survey of the study area was accomplished by a commercial surveying firm that did not tie-in their control points to the previous surveys. The Chicago District is trying to resolve this problem before analysis of the data can continue. Aerial photographs are being studied for trends in sediment movement along the lake shore.

Littoral Environment Observation

The Littoral Environment Observation (LEO) program is a cooperative program carried out between Corps of Engineers District Offices, CERC and representative state agencies. The present program involves the States of California Michigan, Illinois, Indiana, Wisconsin, and Texas. Daily observations are taken on breaker height, period and direction; type of character of breaker; longshore current velocities; wind direction and speed; foreshore slope; rip currents; cusp occurrence and spacing and monthly sand samples. In the Greal Lakes coordinated LEO efforts, the profiles of the beach zone are measured weekly. The LEO data is collected at CERC, collated and stored for distribution to the cognizant Corps Districts and State agencies in a summarized format. Data summaries show climatology of surf, nearshore currents, coastal winds, beach geometry and sediment characteristics.

G. INNER CONTINENTAL SHELF SEDIMENT CHARACTERISTICS (ICONS)

Inner Continental Shelf (ICONS) Sediment Characteristics

The study and analysis of geophysical and sediment data from Inner Continental Shelf studies along the U.S. Atlantic and Pacific Coasts continued during 1974 and planning was initiated for an ICONS field data collection program in eastern Lake Michigan. The report for the Cape Canaveral Florida area was published in March 1974 as CERC TM 42. A report for the area from Cape Canaveral north to the Georgia border was completed and submitted for publication.

An ICONS report for the Inner New York Bight was completed and published in July 1974 as CERC TM 45. Data analysis and reduction and report writing is in progress for the following areas: the Atlantic coast of Delaware, Maryland and Northern Virginia; the Atlantic and Block Island Sound Coasts of Long Island, New York; and Western Massachusetts Bay from Cape Ann to Plymouth.

Field data collection for the ICONS study off southern California between Newport and Santa Barbara is complete and a preliminary letter report describing the data and delineating potential borrow areas for use by Los Angeles District has been prepared.

Further, five draft manuscripts were prepared and a sixth was published in a technical journal summarizing regional geologic and engineering aspects of the continental shelf from ICONS data.

H. LONG TERM SHORELINE CHANGES

Barrier Island Development - Washover Fans

A report on washover fans has been completed and is scheduled for publication. The subject concerns the nature and genesis of some washover deposits along the North Carolina coast. Various aspects of the work include physical characteristics (morphology, sedimentary structures, texture), sedimentologic interpretations, criteria for identification, and relationship to the barrier/ beach system.

Great Lakes Shore Evolution

Long-term changes in the water elevation of Great Lakes are cyclic but unpredictable. As the weather varies, periods of increasing lake levels lasting for several years are followed by several years of falling levels; the cycle is then repeated. Since 1964 (a 104-year record low) the annual lake level means have continued to rise. Profile sites established on the east shore of Lake Michigan by Lake Survey (USCEC) in 1967, were resurveyed in the vicinity of Pentwater Harbor in 1969 and 1971. Additional profile sites were established over an adjacent 53 kilometers of shoreline at the time of the second survey. Comparison of short term profile changes (days to months) with the net change over a number of years, indicates that storm and seasonal effects may be overshadowed by a gradual, cummulative adjustment of the shore to continued increase in lake levels. A program to re-profile these sites on approximately a biennial schedule is an attempt to document the long-term profile development and relate it to the longterm water level history.

A draft report summarizing bar characteristics and profile changes to date is being reviewed prior to publication.

Annual mean elevation of Lake Michigan rose 1.3' between 1967 and 1969. A series of well developed longshore bars moved upward and inward during this interval on about half the shoreline then under study (let this section of shoreline be referred to as Zone 1) Over the remaining one km of shoreline (Zone II) the 1967 bar formation was absent in the spring and fall of 1969. Between 1969 and 1971 annual mean lake level rose 0.35'. During that time, upward and inward migration continued in Zone I and bars were rebuilt in Zone II. A uniform pattern is not evident in offshore profile changes over the extended area of the study. Throughout most of this area shoreline retreat has proceded at a rate near 4 m/yr. Roughly one half of the retreat is simply submergence as the lake rises; the other half is retrogradation due to erosion at water's edge. Plans are underway now to collect additional profile data during the summer of 1975, to test among other things the hypothesis that shoreline adjustments lag many months behing longterm lake level changes.

I. NEARSHORE GEOMORPHOLOGY AND SEDIMENT KINETICS

A mobile platform (sea sled) was designed and constructed for the purpose of (a) providing support for various oceanographic instruments, (b) traversing and collecting environmental data in the nearshore (including the breaker) zone. The sled, operated by towing with an amphibious craft, has been field tested and found stable. Data collected by the sled-mounted current meters was transmitted to shore for analog/digital conversion, then storaged on tape. Experiments have been conducted in 1972 and 1973 at Pt Mugu, California and in 1974 at Pentwater Michigan. Analysis and interpretation of this data, obtained in connection with other concurrent experiments are underway.

J. CHANNEL ISLAND HARBOR STUDY

Channel Islands Harbor Sand Trap, CA

A study to relate the longshore transport of sand to wave energy was initiated at Channel Islands, California in April 1974. Hydrographic and topographic surveys are being taken every 20 to 50 days and wave climatology is being collected twice daily at three sites near the sand trap. The data is being analyzed to compare the longshore energy flux with other sections of the coastline.

K. General Investigation of Tidal Inlets:

1. WES Laboratory Studies: Report preparation for 3 completed sedimentation studies was continued. A description and preliminary summary of results of these studies (the Masonboro Inlet movable bed model tests, model materials evaluation, and shoaling tests in the Masonboro Inlet fixed bed model) were presented in the CY 72 sedimentation report.

2. Corpus Christi Pass Field Study: A study to investigate the hydraulic and sedimentary characteristics of an artificial inlet between the Gulf of Mexico and Corpus Christi Bay, Texas was continued and will be completed in May 1975. Preliminary results from this study were discussed in the CY 73 sedimentation report.

3. North Inlet SC Field Study: A study to determine the processes controlling inlet stability and bathymetric changes at this inlet was initiated in 1974. Wave observations, tide records, and velocity measurements are being obtained and correlated with observed changes in inlet morphology. This study will continue until June 1976.

L. Sedimentation in High Tide Range Areas: Objectives of this study are to indicate the degree of shoaling that might be expected in a prototype harbor basin in south-central Alaskan waters, and to develop a means for minimizing shoaling. The field data collection aspect of the study was decreased in 1974, and emphasis switched to data analysis.

A report entitled, "Shoaling Rates and Related Data from Knik Arm Near Anchorage, Alaska", was completed.

Data were presented on summertime shoaling rates within a sedimentation tank that was located on a tidal flat near Anchorage, Alaska in 1971 and 1972. In 1971, the mean shoaling rate was 0.073 ft/da, and in 1972 it was 15 percent less or 0.060 ft/day. Data concerning the characteristics of the fluid and sediment, the suspended sediment concentrations inside and outside the basin, and current velocities in the vicinity of the basin were obtained. These data illustrate the hydraulic and sedimentologic environment for two summers at one location in a high tide range and sediment laden estuary.

A modest field effort was made at Kenai, Alaska in cooperation with the University of Alaska during the summer of 1974. The goal of the project was to relate grey-scale density levels from remotely sensed images to surface suspended sediment concentration in a typical sediment-laden Alaskan estuary. It was a pilot project designed to test the feasibility of using remote sensing techniques as an input when selecting sites for small craft harbors in a manner to minimize shoaling problems. The data are being analyzed.

M. Littoral Transport Testing Procedures: This work unit is a continuation of two former projects: "Sand Simulants for Laboratory Studies" and "Laboratory Effects in Beach Studies". The purpose of the work is to improve the understanding and operation of coastal engineering laboratory experiments and models.

A paper on the results from four earlier experiments, "Lab Profile and Reflection Changes for Ho/Lo = 0.02" by Chesnutt and Galvin, was presented at the 1974 Coastal Engineering Conference in Copenhagen. The major conclusions drawn in that paper were:

a. Because of the variable profile reflectivity, incident wave measurements to characterize a coastal engineering experiment should be based on calibration of the wave generator rather than spot wave measurements during the experiment.

b. Initial slopes for two-dimensional coastal engineering experiments with a movable bed should be chosen according to the purpose of the experiments. For experiments which presume an "equilibrium" profile, an approximation of that "equilibrium" profile should be used to start the test, as done by Savage (1959) and Fairchild (1970a). However, data in this paper suggest caution in the determination of "equilibrium" conditions.

c. The foreshore retreated at average rates which varied from 0.04 to 0.10 ft/hr, averaged over the first 50 hours of each experiment, with different tank widths, initial test lengths, and varying water temperature. This suggests that more work needs to be done on the laboratory effects resulting from varying water temperature and different test basin dimensions.

The final report resulting from contract work by Tetra Tech on an empirical scale relationship for coastal movable-bed models was revised and will be published as a CERC MP. The model law was successful in predicting the slope of the foreshore, but was unsuccessful in modeling the profile shape in the surf zone or in predicting erosion or accretion at the shoreline. The general use of the empirical model law is not recommended.

N. Effect of Bed Permeability on Sand Transport by Waves: Under an interagency agreement with the National Bureau of Standards, a series of experiments documented a small net sand transport caused by bed permeability in sinusoidal water flow. Side-by-side horizontal beds of 0.56 mm diameter sand were eroded by horizontal water flow at 3 to 14 second period, with a small vertical flow superposed (approximating a natural wave-bed interaction) into one bed and out of the other at any time. The bed ripple profile regularly moves in the onshore direction, where 'onshore' is defined by the phase relationship between the horizontal and vertical flows. A report by Karl Lofquist, the principal investigator, is being prepared for publication.

O. Investigation of the Operating Characteristics of the Iowa Sediment Concentration Measuring System: Under a contract with the University of Iowa, the capabilities and limitations of the miniature electro-optic instrument were better defined, as reported in Iowa Institute of Hydraulic Research Report No. 170, by F. A. Locher, J. R. Glover and T. Nakato. If calibrated and used carefully, the present instrument can obtain useful data (primarily mean values of concentration) in laboratory studies of suspended sediment in unidirectional and periodic flows. The report documents the importance of the surface texture and opaqueness of the sand grains whose concentration is being measured electro-optically.

P. Nearshore Sediment Transport: It is planned to distribute results obtained under contract with the University of California, including CERC publication of the final Berkeley study on suspended sediment (MacDonald) and distribution of an inventory of California nearshore sand samples and their characteristics (Wilde).

Q. Effects of Long Term Great Lakes Water Level Changes: A report has been accepted for CERC publication dealing with the results of two years of beach profiling at 17 Lake Michigan localities, done under contract with the University of Western Michigan. Another report dealing with an overall review of results of 3 years of contract studies at these localities is under final review.

The Detroit District of the Corps of Engineers has completed a 16-month survey program at 17 sites along the East Coast of Lake Michigan. These sites were profiled every four weeks in order to monitor changes on the beach and the recession of the bluff or dune. Data from these surveys have been quality controlled and plotted. A five-year study plan to systematically investigate the processes that result in Great Lakes beach erosion and bluff recession and to use the findings to develop planning and engineering guidelines is under study.

R. Longshore Transport: The longshore transport-wave energy flux relation was revised still further. A draft report documenting the existing formulation was completed and is undergoing in-house review.

Plans have been made to make a laboratory comparison between longshore force (Longuet-Higgins, 1972) and the traditional longshore flux method of predicting longshore transport. Laboratory tests have also been designed to measure energy dissipation by vortexes shed from wave-induced flow over ripples. This should permit better prediction of longshore transport from offshore wave statistics.

S. Suspended Sediment - Field: A draft report on suspended sediment data collected at Nags Head, NC in 1964 and at Ventnor, NJ in 1965 has been completed and is undergoing final review. These data are sediment concentration and size characteristics in samples obtained by pumping sand-water mixtures from in and near the breaker zone. Wave, tide and littoral current data were collected concurrently with the pump samples and are used in the data analysis. These data will permit better understanding of the relative importance of suspended and bed load transport in contributing to the total longshore transport rate.

T. Beach Profile Studies: The objectives of these studies are to establish criteria for the design of protective sand beaches, and to develop a predictive model to estimate seasonal and storm induced beach changes. The primary sources of data are repetitive surveys of beach profile lines at selected localities. These profile data are then correlated with environmental factors such as waves, tides, storm intensities, and sand conditions, to determine seasonal and storm induced changes and to develop prediction methods for them.

U. Beach Profile Studies - Data Collection: During the 1974 calendar year the Beach Evaluation Program (BEP) received 2,015 beach profile surveys completed by Corps personnel and private contractors. This compares with 1,648 profile surveys for 1973. Contributing localities include 131 profile lines along the east coast, between Wellfleet (Cape Cod), Massachusetts, and Holden Beach (Cape Fear), North Carolina.

As part of the data collection effort in Dare County, North Carolina, a series of 10-weekly surveys as well as monthly surveys were made along 62 beach profile lines and 5 pier profile lines. In addition to the regularly scheduled surveys at each beach, special surveys were called following storms in February, March, and December. Monthly surveys of the two pipe profiles on Assateague Island, MD/VA were continued through May 1974. Data collection included sand-level measurements to -9 ft MSL, detailed sand sampling, wind, wave and current observations. A series of observations was made at four-hour intervals through two complete tidal cycles on the North Beach profile. A report summarizing the results of this study is in preparation. Two surveys were completed on the beach and nearshore pipe profiles at the proposed research pier site at Duck, NC, to a depth of -20 ft MSL.

Pipe profile markers were removed from each of the 13 study localities - including the three SE Florida beaches being studied under contract (FOSI). With the exception of the nearshore profiles being surveyed at Duck, NC, the pipe profile data collection effort has been terminated.

Collection of beach profile survey data has been terminated in New England, New York, New Jersey, and North Carolina (with the exception of Dare County).

To supplement the continuing beach profile studies, daily visual wave observations and littoral environment observations are being made at 26 active sites by volunteer observers. A total of 660 sand samples were collected along selected profiles on the North Carolina and Assateague Island beaches. These samples are presently being stored, pending re-installation of the rapid sediment analyzer.

V. **Beach Profile Studies - Data Analysis**: Survey data is analyzed for short-term and long-term beach changes. For storms, and post-storm recovery periods, the following information is obtained: 1) maximum elevation of storm scour; 2) cut-fill nodal point for cut-fill sequences; 3) change in cross-sectional area vs MSL intercept migration; 4) change in horizontal location of contour intercepts; 5) change in elevation for constant horizontal locations; 6) rate of area change following a storm; 7) rate of elevation change following a storm; 8) rate of contour intercept migration following a storm. In conjunction with longer term beach changes, three analysis procedures are utilized: 1) MSL-intercept change in time and space; 2) cross-sectional area change in time and space; 3) envelopes of profile change in time and space.

W. **Beach Profile Studies - Reports**: A major effort is underway in the preparation of a series of locality reports, summarizing all of the BEP data collected since 1962. The draft report for Ludlam Island, NJ has been completed. Basic data are presented for changes in shoreline position and for changes in sand volume above MSL, at 20 profile line locations along the ocean front of the island during 1962-1972. Ludlam Island is a 7-mi long barrier island 20-mi south of Atlantic City.

The profile data resulting from approximately 90 tape and level surveys at each of the 20 profile lines indicate:

(1) Storm losses were irregular between profile lines and from storm to storm. The mean storm loss was 2.6 yd^3/ft and the maximum was 4.3 yd^3/ft when averaged for the entire coast. The maximum storm loss near an inlet was 44 yd^3/ft, and in the center one-half of the island it was about 15 yd^3/ft.

(2) A pronounced seasonal change averaging almost 14 yd^3/ft in sand volume occurs on the Ludlam Island beaches. A maximum volume above MSL was measured in October and a minimum in May.

(3) Year-to-year changes in sand volume are highly irregular and non-predictable.

(4) For the ten-year study the net loss of beach sand was 1.1 yd^3/ft-yr, and the net shoreline retreat was 8.2 ft-yr.

(5) Beach sand appears to move from north to south as a migrating "hump" or alongshore wave. Based on a 5 ft/da rate of movement, and a wavelength of 16,000 ft, about 40,000 yd^3/yr were moved.

(6) Groins near the center of Ludlam Island appear to significantly affect beach stability by trapping large volumes of sand in compartments at the north end of the groin field which causes the coast to protrude there. At the south end of the groin field, and south of the groin field, a large net yearly loss of sand was measured.

A report "Behavior of Beach Fill at Atlantic City, New Jersey" was presented at the 14th International Conference of Coastal Engineering. The report presented results of BEP surveys at seven profile lines obtained between 1962 and 1972. The surveys indicated that loss rates following fill placement in 1963 and 1970 were similar. Ninety percent of the total fill was lost from the updrift portion of the study area in 8 mos following replenishment in 1963 and in 6 mos subsequent to the 1970 fill. Fill was eroded from the feeder beach at an initial rate that decreased linearly in a downdrift direction.

Net sediment loss above MSL from the entire 16,400 ft Atlantic City study area for the remainder of the year following the 1963 fill was 65,000 yd^3. An additional 44,000 yd^3 was lost in 1964, and in 1965 a net 124,000 yd^3 was gained although no material was artificially added to the beach in that year. After 1965, annual losses averaged 35,000 yd^3 through 1969. By 1970 the beaches had lost 77 percent of the fill volume placed in 1963. The largest yearly loss following the 1970 fill was 94,000 yd^3 in 1972. All profile lines lost the largest sand volume in the autumn and experienced the greatest accretion in the summer.

The 1963 Atlantic City beach replenishment remained effective for 6 years. The behavior of beach fill at individual profile lines was highly regular, but net annual sediment losses above MSL from the entire Atlantic City beach were highly variable. Data from this study show that fill loss rates are greatest from the northeast portion of the feeder beach and that much of the fill moves in a downdrift direction.

The report on the December 1970 storm is being revised for publication by CERC. As a result of this storm, 80 percent of 89 surveyed profiles at 7 BEP localities between Cape Cod and Ludlam Island, NJ were eroded an average cross-sectional area of 19.4 yd^2 between MSL and the maximum elevation contour surveyed.

The larger vertical changes in sand level (4-5 feet) were observed on the coarser, steeper beaches of Cape Cod and Long Island while the maximum horizontal change in the MSL contour of -96.3 ft was observed on the finer flatter beaches of Ludlam Island. Profile contours of maximum erosion were found to correlate reasonably well with maximum water elevation obtained from tide and surge data and were generally those between +4 ft and +8 ft MSL.

A final report was submitted by the Florida Ocean Sciences Institute on the study of the three SE Florida study sites at Jupiter, Boca Raton and Hollywood Beach. This report is being rewritten for publication by CERC. This study showed that beach changes can be correlated with changes in wind and wave energy, but that these changes cannot be correlated from one beach to another.

A Scripps Institution of Oceanography contract study is complete and a final report was submitted. The purpose of the study was to determine the seasonal changes in three beach profiles along a straight beach with uniformly sloping shelf that is exposed to waves from all offshore quadrants. Three parallel rangelines were established at Torrey Pines Beach, California and were surveyed at monthly intervals from June 1972 to April 1974. Offshore sand level changes were measured by using reference rods placed in the bottom at selected stations on each rangeline.

The beach profile measurements indicated that the beach underwent significant seasonal changes in configuration that can be related to changes in the wave regime. During the summer months (May through October) the beach profile progressively changed configuration with the seaward progradation of the berm crest and accretion of the upper foreshore. This change in configuration was caused by the onshore transport of sand from immediately offshore in depths of less than -20 feet (6.1 meters) relative to MSL.

The beginning of the transition from the summer to the winter beach profile was abrupt with the coincident occurrence of high waves and tides. A four day period of high waves at the time of the spring high tides resulted in wave swash overtopping the berm crest and quickly eroding the upper foreshore. The rapid shoreward retreat of the berm crest caused by the offshore transport of sand was accompanied by a corresponding deposition of sand immediately offshore at depths less than -30 feet (9 meters) relative to MSL.

THE HYDROLOGIC ENGINEERING CENTER

Predictive Models for Movement and Control of Sediment in Rivers and Streams. The purpose of this research investigation is to provide analytical tools that can be used to evaluate the complex interactions among sediment load, water discharge and the movable boundary of the stream using digital simulation.

Using existing knowledge about the transport, scour and deposition of sediment, a computer program has been developed that could simulate the movement of sediment in alluvial and armored streams.

An application of the "Scour and Deposition in Rivers and Reservoirs" computer program demonstrated the need for several modifications in the program to make it more generally applicable. The necessary changes have been completed and tested.

Additional testing of the computer program "Scour and Deposition in Rivers and Reservoirs" using new experimantal results from laboratory tests resulted in several minor modifications to the program logic.

Work was initiated to improve the sediment transport equations for cohesive material. Some minor testing of the new transport algorithms for clay material was accomplished.

Waterways Experiment Station
Vicksburg, Mississippi
Sedimentation Studies

Title of Study:

Water Temperature Effects on Bed Forms and Roughness (ES Item 841)

Conducted by:

U. S. Army Engineer Waterways Experiment Station

Conducted for:

Office, Chief of Engineers

Summary of Accomplishments:

The purpose of the investigation is to determine the effects of water temperatures on bed-load transport, stream bed forms, and bed roughness for various types of bed materials found in natural rivers and used in movable-bed models. The tests are being conducted in a variable-slope, straight rectangular flume 3 ft wide, 75 ft long, and 1 ft deep. Appurtenances include a sump, automatic bed-load feeder, bed-load trap, pumps and circulating system, and water-temperature control apparatus. During 1959, construction of the flume and appurtenances was completed, and a few exploratory tests of fine sand and crushed coal were conducted with water temperatures of 40, 60, and 80 degrees F.

The first series of tests with fine sand to determine the effect of water temperatures on sediment transport, stream bed form, and bed roughness was completed. This series of tests was conducted with constant discharge, tailwater elevation, and sand feed and water temperature of 40, 60, and 80 degrees. The second series of tests to determine the effect of increased sand feed was continued, and testing with crushed coal to determine the effect of water temperature with sediment which moves without riffling was undertaken. The investigation was suspended during 1963 and 1964. During 1965, work was confined to the search of available literature on the subject and in the preparation of a comprehensive test program for the investigation. During 1966, tests with crushed coal were completed. A third series of tests with fine sand to determine the effect of increased water depths was conducted in 1967. A series of tests, undertaken in 1968, to determine the effect of temperature on a coarse material of the same specific gravity as the fine sand which moves without riffling was completed in 1969. Tests to determine the effects of temperature on a medium sand were undertaken in 1969 and continued into 1970. Equipment failures and shortage of funds forced suspension of tests in the second quarter of 1970. Funding to resume the study was provided in FY 75; however, personnel space limitations and rapid increase in high priority work precluded resumption of work on the study.

Title of Study:

Development of an Eductor System for Sand Bypassing

Conducted by:

U. S. Army Engineer Waterways Experiment Station

Conducted for:

Office, Chief of Engineers

Summary of Accomplishments:

The purpose of this study is to develop effective systems for bypassing sand at tidal inlets and other obstructions to littoral transport, including dredged channels, jetties with and without weir sections and deposition basins, and breakwaters. Laboratory and field tests are required for development and evaluation of equipment and operating techniques.

During CY 74, field tests were performed at Mexico Beach and at East Pass (Destin), Florida. The work at the Mexico Beach field site was primarily concerned with gathering performance criteria for various configurations of the system and for developing the techniques for deployment and operation of the system in the littoral zone. The tests resulted in the verification and extension of preliminary laboratory tests and provided a basis for design of more advanced systems.

The work at East Pass, Florida, provided a means for observing the system where a booster was included in the design. Additional performance criteria were obtained from the East Pass tests.

Observations and measurements of system performance from the Florida test sites were sufficient to allow design of a more advanced system to be installed at Rudee Inlet, Virginia, during CY 75.

Title of Study:

Beach Nourishment Techniques

Conducted by:

U. S. Army Engineer Waterways Experiment Station

Conducted for:

Office, Chief of Engineers

Summary of Accomplishments:

The Beach Nourishment Techniques project is a portion of the Improvement of Operations and Maintenance Techniques (IOMT) program, funded by the Operations Division, Civil Works, Office of the Chief of Engineers. The objective of the project is to develop new techniques, procedures, and equipment that will open new supply sources of beach nourishment materials and permit economic exploitation of these resources with a minimum disturbance of ecosystems. Thus far, the major area of investigation has been the recovery of offshore nourishment materials.

Accomplishments during Calendar Year 1974 included the following:

a. Completion of literature search to determine state-of-the-art of beach nourishment systems and to gather information related to beach nourishment.

b. Completion of approximately 50 percent of draft report on results of the literature search.

c. Completion of study to determine theoretical capabilities in predicting offshore sand movement, with reference to the "offshore dumping" method of beach nourishment.

d. Completion of approximately 60 percent of draft report on results of offshore sand movement study.

Future work will be directed toward completion of above items b and d. Additional work items undertaken are dependent on future funding levels. However, information on nourishment systems and equipment will continue to be gathered throughout the life of the project.

Title of Study:

Assessment of the Aesthetic and Ecological Significance of Turbidity in Various Aquatic Environments

Conducted by:

Environmental Sciences Division, Living Marine Resources, Inc.,
San Diego, California

Conducted for:

Dredged Material Research Program, Environmental Effects Laboratory, U.S. Army Engineer Waterways Experiment Station

Summary of Accomplishments:

Have performed a rigorous analysis of the literature relative to the aesthetic and ecological significance of turbidity in various aquatic environments. Particular emphasis was placed on examination of factors controlling the spatial and temporal variation in turbidity in various lake, river, and coastal systems and on the roles played by turbidity such as buffering ability for various dissolved pollutants.

Title of Study:

The Effects of the Physical Characteristics of Suspended Particles on Benthos

Conducted by:

Bodega Bay Marine Laboratory, University of California

Conducted for:

Dredged Material Research Program, Environmental Effects Laboratory, U.S. Army Engineer Waterways Experiment Station

Summary of Accomplishments:

Evaluate the physical characteristics of concentration, size distribution, and particle shape on the survival, respiration and feeding efficiency of selected species of suspension and deposit feeding benthos. Emphasis will be on:

Title of Study:

Development of a Two-Dimensional Sediment Transport Model

Conducted by:

University of California, Davis, California

Conducted for:

Dredged Material Research Program, Environmental Effects
Laboratory, U.S. Army Engineer Waterways Experiment Station

Summary of Accomplishments:

Conduct a mathematical simulation of a two-dimensional finite element model for cohesive sediment transport which can simulate resuspension, transportation in suspension, and deposition of cohesive sediments in a two-dimensional flow field. The resulting model will be sufficiently general and flexible to accept input from a variety of sources to permit consideration of various energy regimes characteristic of estuarine dynamics. A user's manual will be prepared and documentation of its application and limitations with respect to prediction of dredged material resuspension and transport will be made.

Title of Study:

Sensitivity Analysis and Field Verification of the Koh-Chang Model

Conducted by:

Mathematical Hydraulics Division, Hydraulics Laboratory, U.S. Army Enginee
Waterways Experiment Station

Conducted for:

Dredged Material Research Program, Environmental Effects
Laboratory, U.S. Army Engineer Waterways Experiment Station

Summary of Accomplishments:

Various coefficients which are built into the Koh-Chang Model have been investigated and their respective sensitivities evaluated. From the preliminary evaluation, only a few coefficients are highly sensitive. The information will be used to plan the field verification program to be implemented and help formulate the priorities of the various parameters.

1. Organisms characteristic of open ocean disposal sites.

2. Certain races adapted to naturally turbid water as compared with the same species adapted to less turbid water.

3. Effects on freshwater benthic species.

This study will be using natural dredged material as the sediment.

Title of Study:

Assessment of the Factors Controlling the Long-Term Fate of Dredged Material Deposited in Unconfined Subaqueous Disposal Areas

Conducted by:

Texas A&M Research Foundation, College Station, Texas

Conducted for:

Dredged Material Research Program, Environmental Effects
Laboratory, U.S. Army Engineer Waterways Experiment Station

Summary of Accomplishments:

Through a rigorous analysis of the literature, have identified the processes governing sediment resuspension and transport, and have assessed these processes as to their relevance and applicability to dredged material of varying characteristics deposited on the bottoms of lakes, rivers, estuaries, and oceans. Methods and equipment for measuring and analyzing those processes, factors and/or characteristics significant in gaining a predictive capability for the long-term fate of deposited dredged material have been set forth. Particular emphasis was placed on the assessment of fie and laboratory simulation methods for determining the erodability of deposite dredge material. A priority list of future research needs has been included. The report is being reviewed for publication.

Title of Study:

Development of a Model for Prediction of Short-Term Fate of Dredged Material Discharged in the Estuarine Environment

Conducted by:

Environmental and Marine Engineering Division, Tetra Tech, Inc.
Pasadena, California

Conducted for:

Dredged Material Research Program, Environmental Effects Laboratory, U.S. Army Engineer Waterways Experiment Station

Summary of Accomplishments:

Will conduct a numerical modification and generalization of the Koh-Chang Model, developed for the prediction of dispersion of dredged material in the ocean, such that it can be utilized in the estuarine environment. The modifications will include allowance for time variations of the ambient velocity field, inclusion of side boundary influences on the dispersion process, variations in depth (tides), inclusion of horizontal variations of the ambient current and density, allow for interaction between transport of discharged dredged material and the natural suspended load, and expand the number of density classes and fall velocity classes associated with the dredged material. A user's manual will be prepared and the model will be sufficiently general and flexible to accept input from a variety of sources and to permit consideration of various discharge modes commonly found in estuarine disposal.

Title of Study:

Investigation of the Partitioning of Various Elements in Dredged Material

Conducted by:

Ecosystems Research & Simulation Division, Environmental Effects Laboratory, U.S. Army Engineer Waterways Experiment Station

Conducted for:

Dredged Material Research Program, Environmental Effects Laboratory, U.S. Army Engineer Waterways Experiment Station

Summary of Accomplishments:

Selective extraction techniques for sediment components or phases have been developed. Have conducted chemical partitioning of sediment cores and water samples from Mobile Bay, Alabama, Ashtabula, Ohio and Bridgeport, Connecticut. Results of these analyses are forthcoming and will determine in what manner and to what degree pollutants associated with the dredged material are available to influence water quality and aquatic organisms under varying environmental conditions.

ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency's studies and investigations regarding sediment are done principally for identifying problem areas and defining methods for controlling excess sediment runoff and the pollution of receiving waters. Studies are being conducted in the Agency's Headquarters Offices in Washington, National Environmental Research Centers and Associated Laboratories, and Regional Offices.

The projects outlined in notes on Sedimentation Activities for 1973 have been completed and the following reports have been published:

Programmed Demonstration for Erosion and Sediment Control Specialist-EPA-660/2-74-071-Thomas R. Mills and Michael A. Nawrocki.

Demonstration of the Separation and Disposal of Concentrated Sediments-EPA-660/2-74-072-Michael A. Nawrocki.

Prediction of Subsoil Erodibility Using Chemical Mineralogical and Physical Parameters-EPA-660/2-74-043-Charles B. Roth and Darrell W. Nelson.

An Executive Summary of Three EPA Demonstration Programs in Erosion and Sediment Control-EPA-660/2-74-073-Burton C. Becker and Michael A. Nawrocki.

Remote Sensing for Sediment

NERC-Las Vegas is engaged in developing aerial remote sensing techniques for sediment as part of an effort to improve state-of-the-art measurement techniques for water quality parameters. Currently, only "passive" techniques are being pursued to measure turbidity from airborne platforms. A multispectral scanner system is being fabricated and tested both on the ground and in an airborne mode over selected areas in Lake Mead. It is expected that results of this effort and potential future efforts to develop "active" systems will lead to highly cost-effective and rapid techniques to obtain a measure of sediment load in surface waters.

State Sediment Control Institutes

A series of 40 State sediment control conferences was held to increase awareness of the problem of controlling erosion and sediment runoff, report on mandatory programs in this field that are in operation or under consideration, explain the provisions of a Model Act for Soil Erosion and Sediment Control, and encourage needed legislative and administrative action to deal with the problem.

The conferences succeeded in achieving enhanced recognition of the problem of sediment--the nation's most prevalent pollutant in terms of volume--and wider acceptance of the need for accelerated and extended action by officials of Conservation Districts and wide variety of local, State, and Federal agencies and private organizations. The Institutes were influential in the enactment of several new State laws establishing regulatory programs, in the drafting of 15 new laws for introduction in State legislatures, and the modification of several other pending drafts of proposed State legislation.

Copies of the report have been sent to Governors of all 50 States; Federal Agencies; State Pollution Control, Conservation, Transportating and Development organizations; and other concerned and interest persons.

Vegetation of Low Productivity Soils, Construction Sites

A control study has been conducted to develop and provide information on measures useful for vegetating soils of low productivity or construction sites. Soils in this study include these defined in the agricultural sense as topsoils and subsoils and in the engineering sense as the natural aggregate of mineral grains that can be separated by such mechanical means as agitation in water. Non-cohesive, soils occur in areas of high relief which are underlain by granitic rocks such as the Sierra Nevada of California and Nevada and the Idaho batholith. Soils of low inherent fertility occur in coastal or river flood plains which may include recent and older non-cohesive, wind blown sands of high permeability. In addition, many of the underlying parent materials from which agricultural soils are derived are of low fertility.

A draft of a manual has been obtained from the contractor, reviewed, and is scheduled to be published in the near future. It will present information on practical and economic techniques and methods for quickly re-establishing protective vegetative coverings on sterile soils or soils with low inherent fertility and decrease or prevent erosion and sediment runoff. Construction involved will include highway projects, housing developments, recreation facilities, logging roads and skid trails, transmission lines, fuel breaks, and others.

Methods to Control Fine-grained Sediments Resulting From Construction Activities

Man's construction activities have initiated severe and undesirable readjustments in the natural sedimentation cycle by drastically accelerating the erosion and transport processes. As a result of the greatly increased erosions, excess quantities of sediment are being transported into downstream areas by runoff waters leaving construction sites. In many areas of the country, a high percentage of this materials consists of fine silt and clay sized particles less than 0.01 mm in diameter. They generally remain suspended in runoff waters which transport them through all control structures, including sediment basins which are considered the "last line of defense" in most sediment control facilities, and discharge them as pollutants into downstream receiving waters. Pesticides, nutrients, and other pollutants often are adsorbed to these fine-grained sediments to provide additional pollution loads to streams.

Sediment control measures often are considered highly effective in view of preventing runoff of the total sediment load. This effectiveness decreases drastically, however, with regard to the fine-grained fraction such is fine silts and clays. EPA is initiating a contract study to develop information and provide a manual concerning practical and economical measures which can be used to contain or prevent the runoff of these materials from construction sites is essential for the development of fully effective sediment control programs by the States.

Pilot Control Program - Silvicultural Activities

The U.S. Environmental Protection Agency's Region X Office in Seattle, Washington is conducting a pilot control project to identify "processes, procedures, and methods to control" water pollution resulting from forest harvest and management methods.

Sediment has consistently been identified as the most important pollutant related to wood harvesting. There is much evidence that this sediment results from improperly located constructed, or maintained logging haul roads. The initive phase toward technical control measures has involved development of a manual of information on engineering design and technical criteria for the control of sediment from logging haul roads. The information has been obtained by contract as well as staff efforts.

A report entitled "Logging Roads and Protection of Water Quality" is scheduled for publication on May 23, 1975, as a result of the study. It will include discussions on the effects of logging roads on water quality, design criteria route planning, construction techniques, maintenance, and use of road maintenance chemicals.

The second portion of the silvicultural program involves forest harvest-regeneration activities and pollution resulting from them. A draft contract report has been obtained and is undergoing review. It is entitled, "Forest Harvest-Regeneration Activities and Protection of Water Quality" and includes a description of forest lands in Region X, forest practice systems in use in the Region and their water quality impacts. Pollution control information presented involves planning, monitoring impacts, selection of silvicultural systems and logging methods, and pollution control measures to be taken.

A final report will cover use of silvicultural chemicals and their control. A contract study is scheduled to develop a report useful for water pollution control purposes.

Joint Construction Sediment Control Program

The initial report on the Columbia Maryland project described in Sedimentation Activities, 1973, was followed by the publication of "Guidelines for Erosion and Sediment Control Planning and Implementation." The Guidelines will be enlarged and modified for other climatologic regions of the country and other geographic situations through a series of construction sediment erosion control projects. The first of these is ongoing in Lake Tahoe Region of California with the primary grantee being the California State Water Control Board. Construction activities in Martis Creek and Lonely Gulch Creek which drain representative volcanic and grantic watersheds are being extensively monitored, and a series of erosion control techniques are being applied to specific sites. Two other projects are being finalized at this time. The first is a similar project in a development on the Piedmont of the south-east USA, and the second is in the Northern Plains region.

Separation of Five Sediments from Storm Water Flows at Construction Sites

The St. Anthony Falls Hydraulic Laboratory of the University of Minnesota has initiated a study to develop and test methods of removing, effectively and inexpensively, the fine material of silt and clay sizes from storm water flows. This material in not normally retained in the conventional sedimentation basin built adjacent to construction sites, but will remain in suspension and become part of the overflow from the basin and be carried to receiving streams. Available technology will be reviewed and a pilot demonstration of the best technology will be made in conjunction with one of the sediment erosion control demonstration projects.

Assessment of Water Pollution From Nonpoint Sources

As specified in the Federal Water Pollution Control Act Amendments of 1972, plans are to be made to control nonpoint sources of pollution. Since the responsibility for developing these control plans and for their enforcement and regulation rests with the states, the states in turn must define their nonpoint pollution problems and devise measures to eliminate the problems or minimize environmental impacts.

To support the state programs, one EPA study is developing quantitative expressions (loading functions) to enable the estimation of nonpoint loads to the Nation's waterways. It is possible that certain sources and certain pollutants cannot be defined quantitatively at the present time especially by widely applicable equations. Therefore, only loading functions that are shown to be valid by tests under a suitably wide range of situations will be made available for general use. Similarly, the necessary data must be accessible for the calculations if the loading functions are to be of nationwide utility. Thus approaches which suffer from current data inadequacies must be discarded in favor of those emphasizing data already on hand.

The final document, to be available during the summer of 1975, will be a "user's handbook" of loading functions, accessory data, references to data sources, and methodology for applying the loading functions. Limited discussions on the technical background of various subject areas will be contained in the handbook to explain the development of the loading functions and to help define their limitations. The loading functions include sources such as agriculture (cropland, pasture and rangeland, irrigated land, woodland, and feedlots), silviculture (growing stock, logging, and road building), construction (urban development and highway construction), mining, terrestrial disposal, utility maintenance, and urban runoff, and pollutants such as nutrients, sediment, biodegradable organics, pesticides, salinity, and mine drainage.

A second phase of this project concerns the development of a national assessment of pollutant loading from all nonpoint sources to surface waters. For this purpose, the selection of loading functions may be broader and may include those not deemed adequate for the user's handbook, even if they produce a broad range of values. Based on extensive collecting of existing data the amounts of pollutants reaching watercourses from nonpoint sources will be assessed and listed for major and minor basins in the Nation by source and specific pollutant. Included in this assessment is to be an estimate of the load from natural or "background" runoff or other sources which would be present in the absence of man's activities. The results of these individual basin assessments are to be accumulated in terms of total loadings by pollutants and nonpoint sources according to that portion of each state within a given basin and also totaled nationwide. This assessment is scheduled for completion during the early part of 1976.

Evaluation of the Effectiveness of Surface Mine Sedimentation Ponds

This research contract (EPA No. CI-0298) is being performed by Hittman Associates, Incorporated, Columbia, Maryland. Project report will be completed July 1976.

Although there are over 200 sediment ponds in operation associated with surface mines, the documentation of the effectiveness of these ponds for removing suspended solids is almost nonexistent. The purpose of this project is to obtain that documentation determining the shortcomings of sediment ponds, and recommend design and maintenance procedures for maximum suspended solids removal. The work will include:

1. Collect and analyze available information on sediment ponds. Particular effort should be for sediment ponds associated with surface mines, including State regulations, handbooks, etc. Information on sediment ponds used in other situations should be analyzed for application to surface mines.

2. Select nine sediment ponds for evaluation. The States of Pennsylvania, West Virginia, and Kentucky shall be contacted for potential evaluation sites. Two ponds shall be selected in Pennsylvania, one pond in northern West Virginia, two ponds in the steep slopes of Southern West Virginia, two ponds in eastern Kentucky, and two ponds in western Kentucky. Ponds should be selected on the basis of the type, i.e., leaky dam, series, etc., location, topography, soil type, usage by industry, and meeting State design criteria.

3. Evaluate the nine ponds. Evaluation shall include but not be limited to construction, location, design, operation, suspended solid loading, efficiencey of the basin, suspended solid particle size, detention time, and water quality. Pertinent data to evaluate the pond's performance and to ascertain and define problems shall be collected.

   Water samples shall be collected when the pond is being affected by a rainfall event. Water analysis of influent and effluent shall be made for settleable solids, suspended solids, turbidity, pH, and any other parameters deemed necessary to evaluate the performance of the ponds.

4. Based on the information collected under tasks 1 and 3, recommendations on the design and operation of sediment ponds for maximum suspended solids removal shall be made. Ways of improving performance, such as the use of chemical additives, shall be included.

Prediction of Subsoil Erodibility Using Chemical, Mineralogical and Physical Parameters

This research contract (EPA No. 15030 HIX) was performed by the Purdue Research Foundation. The project is completed and the final report has been published in the EPA Environmental Protection Technology Series No. EPA-660/2-74-043.

This report presents evidence that the surface soil erodibility prediction nomograph (Wischmeier et al, 1971) which uses terms involving soil particle size, organic matter, structure and permeability, could not be improved upon by consideration of other mineralogical and chemical parameters. However, the surface soil erodibility nomograph did not adequately predict the soil erodibility factor, K, of high clay subsoils studied in the field under simulated rainfall conditions as a part of this project. A multiple linear regression equation and nomograph were developed which can be used to estimate the erodibility factor, K, of many high clay subsoils. The subsoil erodibility nomograph uses terms involving soil particle size distribution and the amount of amorphous hydrous oxides of iron, aluminum, and silicon in the soil. Multiple regression analysis revealed that amorphous iron, aluminum and silicon hydrous oxides serve as soil stabilizers in subsoils, whereas, organic matter is the major stabilizer in surface soils. Evidence is presented to show that soil erodibility from semi-compacted fill and scalped subsoil surface conditions were essentially identical. It is reported that the scalped condition is the best standard soil surface to base the calculation of the erodibility factor for subsoils. It is suggested that a soil-management factor should replace the cropping-management factor in the Universal Soil-Loss Equation when the Equation is used to predict subsoil erosion.

Demonstration of Debris Basins for Control of Surface Mine Sedimentation in Steep Slope Terrain

The demonstration grant (EPA No. 801276) is being performed in conjunction with the Commonwealth of Kentucky, Department for Natural Resources and Environmental Protection. The consultant to the Commonwealth for this project is L. Robert Kimball Consulting Engineers.

Surface mining in mountainous areas often leads to severe erosion and sedimentation problems. It is the intent of the Commonwealth to demonstrate the effectiveness of using small impoundments to detain surface runoff long enough to trap a large percentage of the sediment load. Two sites in Eastern Kentucky have been evaluated to determine baseline information before the mining process begins. The sediment basins will be built according to current practice but will be thoroughly studied as to construction practices, influent and discharge water quality and effectiveness. In addition to a regular grab sample program, the basins will have continuous flow, conductivity, pH and turbidity devices installed. The final result will be a report of the actual effectiveness of the basin and a recommendation of methods to improve the design of the basins.

Effects of Surface Configuration in Water Pollution Control on Semi-Arid Mined Lands

This demonstration grant (EPA No. 803079) is being performed in conjunction with the Animal and Range Science Department, Mountana State University.

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The principle method to be demonstrated at three, 40 acre, surface mined areas is surface water runoff control by surface manipulation. Five treatments are being evaluated. They are: goughing on topsoil, chiseling on topsoil, dozer basins on top soil, chiseling on spoil, and gouging on raw spoil. Chiseling on raw spoil will be considered the control against which all other treatments will be compared.

Demonstrations will be intensively instrumentated with sophisticated equipment and will involve monitoring conditions above ground, on the ground level, in the subsoil, and down to the ground water table.

Surface manipulation patterns will not only control surface erosion but will increase soil moisture infiltration. The increased moisture will be used to produce a forage cover sufficient in density and root penetration to consume or transpire much of the infiltrated water, thus little will be left to percolate through the lower levels of spoils which in time might pollute the ground water table.

Demonstration of Modified Block Cut Utilizing on Site Control of Surface Mine Sedimentation

The demonstration grant (EPA No. 802681) is being performed in conjunction with the Commonwealth of Kentucky, Department for Natural Resources and Environmental Protection. The consultant for the Commonwealth is Watkins and Associates, Incorporated of Lexington, Kentucky.

Sediment from surface mines is a major source of pollution. Unlike acid mine drainage from which the stream can recover once the pollution is removed, sediment fills the stream beds and can leave a stream permanently damaged. The Commonwealth is performing a feasibility study to obtain the necessary engineering data to proceed into a demonstration of the effectiveness of primarily non-structural conservation practices for controlling sediment discharges from surface mining operations. The project will demonstrate the importance of the preplanning process as an integral part of the control process. The project will employ only conservation techniques that will present no flood or other hazards in the event of unusually severe rainfall.

New Surface Mining Technology to Minimize Environmental Disturbance

The demonstration grant (EPA No. 802732) is being performed in conjunction with the West Virginia Surface Mining and Reclamation Association. The subcontractor for the Association is Hittman Associates, Incorporated of Columbia, Maryland.

The association is demonstrating the use of longwall mining techniques under surface mining conditions with minimal environmental disturbance.

This technology can be used in areas where conventional surface mining technology would seriously disturb the environment, for example, steep slope mining. Environmental data will be collected before, during and after mining to determine the impact caused by the new technique. The flow, conductivity, pH and turbidity of a nearby stream will be among the parameter that will be measured.

Demonstration of Coal Mine Haul Road Sediment Control Techniques

This project is being conducted by the Commonwealth of Kentucky under the sponsorship of the Environmental Protection Agency. The objective of the project is to determine the feasibility of the constructing of coal haul roads using methods to prevent pollution of streams. In the Appalachian coal mining areas, haul roads are a major source of sediment. The project shall be carried out by introducing various parameters in the design, construction, maintenance and bedding down of haul roads and monitoring the sediment movement from the controlled sections. The haul roads will be divided into various test section, which will be separated by drainage divides. Different control parameters will be demonstrated on each section. The sections will be monitored by on-line devices and grab samples will be taken at discharge points.

West Shade River Sand Abatement Demonstration Project

This project is being conducted by the State of Ohio under the sponsorship of the U.S. Environmental Protection Agency. The objective of the overall project in Meigs County, Ohio, is to demonstrate that severe erosion problems occurring in certain strip mine areas can be eliminated or controlled utilizing methods and materials which have already been researched. The feasibility study is intended to more accurately determine the methods, benefits and costs for a specific demonstration project. The major problem is the erosion of sand from highwalls and spoil banks. When the sand is deposited in adjacent stream valleys, it has caused considerable property loss due to deposition over once tillable soils and the clogging of existing waterways. The concepts of sand abatement and strip mine reclamation are the objectives of the project. The general approach is to improve the qualities of the spoil materials by fertilizing, liming, use of soil conditioners and minor grading in order to permit the growth and self regeneration of various grasses, shrubs and trees.

Storm and Combined Sewer Section, SEEB, AWTRL, Research Activities Relating to Sedimentation Control

The Storm and Combined Sewer Section of the Municipal Engineering and Evaluation Branch of the Advanced Waste Treatment Research Laboratory, NERC-Cincinnati has awarded a research grant to Howard University, located in Washington, D.C., for a study of the "Efficiency of Off-Stream Detention-Retention Measures As Sediment Control Divices."

The objectives of the study are: (a) to evaluate the effectiveness of off-stream detention-retention of surface stormwater runoff as sediment control devices and (b) to establish technical guidelines to aid designer in selecting the most efficient detention-retention facility. Available field data will be assembled and analyzed to evaluate the efficiency of each type of control measure. Theoretical approach will be taken to develop trap efficiency equations for different types of device, based on fundamental principles of hydraulics and sediment transport. The theoretical work will be checked by the field data. It is envisioned that with this theoretical approach the design can be safely extrapolated beyond the data range available. Other factors such as costs of construction and maintenance will also be considered in establishing technical guidelines.

Work on the project, initiated in June of 1974, has included extensive collection of field data for analysation of trap efficiency and formulation of a computer program for routing flow through detention-retention facilities and computation of sediment trap efficiency.

The Storm and Combined Sewer Section, AWTRL, NERC-Cincinnati, has also been involved in a full scale investigation of a swirl device for regulating and concentrating combined sewer overflows. Due to the nature of the device, which utilizes the differences in inertia between solid particles and the transportating liquid as well as gravitational forces to effect solids-liquid separation, it may have a very positive application in sediment control activities. Additional information relating to background of the swirl, and its general configuration and performance characteristics is attached.

Another device with similar possible application is the helical separator-concentrator, which is also under investigation by the Storm and Combined Sewer Section, AWTRL. The study investigated the solids separation patterns induced by the helical motion established in the flow-through bend sections of pipe or channels, and the consequent clarification of combined sewer overflows from the helical device.

The investigation covered both hydraulic model configurations and results, and mathematical model evaluations.

Evaluation of Practices and Systems for Controlling the Loss of Sediment and Other Pollutants from Irrigated Lands

This project is supported by an EPA grant to the University of Idaho. The primary objective is to evaluate the effectiveness and economic impact of alternatives for controlling the loss of sediments, nutrients and other pollutants from irrigated areas. The control measures studied will be those which are effective in controlling tailwater losses from irrigated fields. The effectiveness of alternatives will be demonstrated in conjunction with field evaluations.

Irrigation Tailwater Management

This study is being conducted by the University of California at Davis through an EPA grant. Sediment losses from irrigated areas are best controlled through good tailwater management practices. The project objectives are: (a) evaluate available information and data relative to irrigation tailwater production, quality and reuse potential; (b) conduct field studies to develop data needed regarding tailwater flow, salinity and sediment in the Sacramento and San Joaquin Valleys; (c) determine least cost combination of agricultural production, labor, capital, irrigation water, and tailwater management; and (d) integrate scientific, engineering, and economic appraisals to recommend the best practicable technology for irrigation tailwater management.

Control of Sediments, Nutrients and Adsorbed Biocides in Surface Irrigation Return Flow

An interagency study, being done for EPA by the Agricultural Research Service, is designed to fulfill the following objectives: (a) define problems and assess magnitude of damages associated with sediments and related nutrients and biocides in surface irrigation return flows; (b) summarize and assess current technology for controlling sediments from irrigated lands; (c) summarize simulation techniques for estimating and predicting sediment loads from irrigation; and (d) assess research needs to develop and implement practices to control sediment, nutrients and adsorbed biocides in surface return flows from irrigation.

FEDERAL HIGHWAY ADMINISTRATION

The Federal Highway Administration concentrated its activities on four major areas: control of culvert outlet erosion, control of drainage channel erosion, control of local scour around bridge piers, and control of sediment produced by highway construction. Its major efforts were carried out by staff and contract research, and by the various studies in the Highway Planning and Research Program (HPR) and in the National Cooperative Highway Research Program (NCHRP).

Control of Culvert Outlet Erosion - The objectives of these studies are to investigate the various flow conditions and the forces involved at the outlet area, the material necessary to resist the erosion, and the special designs of energy dissipators and stilling basins to control the erosion.

A. The staff study on Energy Dissipators for Culverts and Highway Drainage Structures was continued, mainly in the analysis. This is an analytical and experimental investigation of the use of large elements to dissipate energy in rapid flow regions in steep small channels. This study is an extension of the previous Virginia HPR study in the tumbling flow region conducted at the Virginia Polytechnical Institute.

B. The U.S. Army Engineer Waterways Experiment Station, sponsored by the Louisiana Department of Highways, completed its study on Lined Expansions in Channels at Culvert Outlets. The purpose is to develop criteria for design of preshaped channel expansions at culvert outlets, which when lined with sack revetment, precast concrete blocks, or rock riprap, will prevent progressive erosion. This is a model investigation. The final report was published in October 1974: "Practical Guidance for Design of Lined Channel Expansion at Culvert outlets" by B.P. Fletcher and J. L. Grace, Jr., Technical Report H-74-9, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

C. The University of Akron, sponsored by the Ohio Department of Transportation, started a study on Field and Laboratory Evaluation of Energy Dissipators for Culvert and Storm-Drain Outlets. The objectives are to develop simple precast modular energy dissipators, to field evaluate concrete pipe utilizing roughness rings as an energy dissipating device, and to reevaluate current Ohio Department of Transportation design criteria for energy dissipators. Laboratory model testing on evaluation of these two designs of energy dissipators was started, and field instrumentation for measuring water depth within culverts was developed and installed.

D. The Wyoming State Highway Department prepared for the Federal Highway Administration the report: "Culvert Outlet Protection Design: Computer Program Documentation" by M. G. Schilling, Report No. FHWA-RD-74-501, January 1974. This computer program is capable of estimating the scour extent at culvert outlets and designing both rigid and rock riprapped stilling basins. It provides protection for local scour problem, only; not the gutty scour situation.

Control of Drainage Channel Erosion - The objectives of these studies are to develop sound erosion control criteria for highway roadside drainage channels.

A. The University of Minnesota, under the National Cooperative Highway Research Program (NCHRP), administered by the Transportation Research Board, completed the research on developing the criteria for the design of armored channels using gravel and crushed stone, and for the determination of the required thickness of the armor layer to prevent leaching. Field studies of drainage channels designed by these proposed procedures were completed in several participating northern States for critical evaluation of their soundness under natural conditions. A report on "Tentative Design Procedure for Riprap-Lined Channels," by A. G. Anderson, A. S. Paintal, and J. T. Davenport of the University of Minnesota was published in 1970 as NCHRP Report 108 by the Highway Research Board (now Transportation Research Board). The report of the results of field evaluation was published: "Tentative Design Procedure for Riprap-Lined Channels - Field Evaluation," by A. G. Anderson, Project Report No. 146, St. Anthony Falls Hydraulic Laboratory, University of Minnesota, Minneapolis, Minnesota, June 1974.

Control of Local Scour Around Bridge Piers - The objectives of these studies are to investigate the mechanics of this dynamic process, the methods of accurate prediction of its magnitude,and the adequate means of controlling its damaging effect to bridge piers.

A. The U.S. Geological Survey, sponsored by the Mississippi State Highway Department, made a survey on the effectiveness of earthern spur dikes in controlling local scour around bridge abutments. It is one of the objectives for a study on Hydraulic Performance of Bridges for the State. The findings of this survey was published in the report: "Hydraulic Performance of Bridges, Efficiency of Earthern Spur Dikes in Mississippi," by B. E. Colson and K. V. Wilson, Report MSHD-RD-73-15-SD, U.S. Geological Survey, February 1974.

B. The contract study on the study of Scour Around Bridge Piers was continued by the West Virginia University. The objectives are to collect parameters which influence scour depth around bridge piers on rivers with noncohesive soils, and to test existing methods and/or to provide an improved method for predicting the scour depth. Four bridge sites in the mid-continent were selected and three were instrumented for detailed study: Shreveport (Louisiana), Homochitto (Mississippi), Richmond (Texas), and Lawrenceburg (Indiana) (not yet instrumented). Data collection and instrumentation maintenance were the main activities in 1974. Methods for data analysis were being investigated, and training for operation and maintenance of the scour monitoring equipment by the State highway officials was started.

C. Dr. F. M. Chang made a sample comparison of the geomorphic character of two river basins as related to susceptibility to bridge failure for the Federal Highway Administration. This study was intended to show the validity of the assumption that drainage basins with the same degree of stability (or instability) possess a certain similarity in geomorphology and channel networks, and vice versa. If this is true, then a geomorphic investigation of the basin can be used in assessing the safety and in planning preventive maintenance of existing bridges. The Tye River Basin and the Fork Rivanna River Basin in Virginia were selected for this study. Encouraging results were obtained but not conclusive, further study will be needed. The report of this study was published in October 1974.

D. A field study at seven bridge sites was conducted to evaluate the effectiveness of the current method of riprap protection of bridge piers used in Washington State. On the basis of these observations, a modification is suggested for minimizing possibilities of scour consentrations between piers. This study was made by Professor R. E. Nece for the Federal Highway Administration, Region 10, Portland, Oregon. The report was published in January 1974.

Control of Sediment Produced by Highway Construction - This problem consists of two stages: during construction and just after the construction.

A. It is important that during the construction of highways, the sediment produced by roadway excavation and embankment construction must be controlled so it will not pollute the natural streams. The Bucknell University, sponsored by the Pennsylvania Department of Transportation, continued the study to develop a sound method for predicting the change of water quality in a stream during highway construction on the drainage basin. Data collection and reduction from two drainage basins affected by highway construction and analysis for the development and refinement of a general prediction method were continued in 1974. In addition to the collection of sediment concentrations and turbidity data of a stream, the chlorine content was also monitored to measure the effect of deicing salts on water quality. Draft interim reports on Storm Turbidigraphs and on the increase in suspended sediment transport affected by highway construction were reviewed and approved for publication. The final report on salt change was being prepared.

B. The U.S. Geological Survey Hawaii District, through the sponsorship of Hawaii Department of Transportation, continued its study on Rainfall-runoff and Rainfall-sedimentation Discharge Relations in Hawaiian-type Watersheds. The objective of this study is to determine the effects of highway construction on the rainfall-runoff and rainfall-sedimentation discharge relations of a watershed in Moanalua Valley, Oahu considering all significant basin characteristics. The results obtained will be used as a basis for deriving similar relations for other basins in Hawaii. Data collection and analysis, and surveys of channel cross section and basin debris were continued. A major modification of the pan evaporation data collection system was accomplished. Work was continuing on model formulation and hydrology-sediment transport relations.

C. The Utah State University, under the National Cooperative Highway Research Program administrated by the Highway Research Board, started a 2-year study on Erosion Control During Highway Construction. The objective is to develop more effective techniques and materials to control erosion during highway construction activities. It consists of three major parts: to assess the effectiveness of methods presently being used throughout the United States, to develop a manual of recommended techniques and design criteria for the control of erosion, and to identify research needs. During 1974, an extensive state-of-the-art survey was made from the state highway and transportation departments, Soil Conservation Service, Bureau of Reclamation, and a number of other groups interested in soil erosion control. Visits were made to case history sites and to numerous state highway construction sites regarding the soil erosion control measures used and their field effectiveness under different soil and climatic conditions. Literature search was continued and work was begun on the construction of a detailed isoerodent map of the United States from the soil association maps and from the information on erodibility of soils furnished by the States.

D. It is equally important that immediately following the completion of highway construction, adequate and permanent protection against erosion be provided for slopes and other roadside areas affected by grading. In most regions of the United States, the establishment of vegetation and its proper management will provide effective protection for these disturbed areas. In 1974, 26 States participated in studies designed to develop better vegetation establishment and its proper maintenance practices. The participating States were Alaska, California, Connecticut, Georgia, Hawaii, Illinois, Indiana, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Jersey, New Hampshire, North Carolina, North Dakota, Oklahoma, Rhode Island, Texas, Utah, Virginia, Washington, and West Virginia. California completed studies on wind erosion and shoreline erosion, and the results were published in the following reports:

"Evaluation of a Shoreline Erosion Control Project" by R. Mearns, December 1973.

"Control of Wind Erosion with Sprayed-on Chemicals" by R. Mearns, K. Baumeister, and T. Hoover, February 1974.

Louisiana completed a study which established a laboratory technique for evaluating the effectiveness of chemical soil binders. The final report was published in June 1974:

"Erosion Evaluation Study" by S. M. Law and S. J. Vaccaro.

E. To assist highway designers, construction field personnel, and contractors, one of the field offices of the Federal Highway Administration published a booklet: "Suggestions for Temporary Erosion and Siltation Control Measurers" by C. L. Dunkley, Federal Highway Administration, Region 1, Delmar, New York, February 1973.

If more information is desired about these research studies, inquiries should be addressed to the sponsoring agencies.

FEDERAL INTER-AGENCY SEDIMENTATION PROJECT ST. ANTHONY FALLS HYDRAULIC LABORATORY, UNIVERISTY OF MINNESOTA, MINNEAPOLIS, MINNESOTA

The following report summarizes sedimentation activities by project personnel at the St. Anthony Falls Hydraulic Laboratory during the calendar year 1974. This report is submitted for the purpose of providing current information to participating Federal agencies and for the use of their representatives on the Sedimentation Committee, Water Resources Council, in drafting the newsletter on sedimentation published annually by the Committee.

Laboratory Research, Work in Progress. A modification of the falling drop techniques for measuring sediment concentration was evaluated. Anisole has been used by previous investigators, but unfortunately the chemical is toxic. With a special instrument oil substituted for Anisole, the resolution was found to be about 200 mg/liter.

The project modified an automatic-tracking device for the visual accumulation tube sand size analyzer. Also, an automated pipette was constructed and is being tested. Both the tracker and the pipette were designed to reduce manual labor required for particle size analysis. A commercial particle size analyzer is being tested.

For the US PS-69 pumping sampler, the project has been developing new accessories and improving some of the existing ones. Under development is a turbidity switch that will activate the sampler when stream turbidity exceeds a preset level. Most of the electronic design is a complete but package design and testing must be finished before the unit will be available to users. To minimize damage from lightning surges, transient suppressors will be added to PS-69 control units. The project has also been working with ARS personnel at Oxford, Mississippi, to develop modifications that will simplify flow proportional sampling. The memory latch and an existing accessory have been modified to minimize false trips that sometimes occur when long interconnecting lines are used.

Laboratory Research, Completed Projects. To facilitate collection of surface samples from wells with small casings, the project designed a special sampler. The unit was fabricated from plastic to eliminate contamination from metals. The sampler has a tubular sample cavity with one-pint capacity and can be lowered through casings with inside diameters as small as two inches.

To facilitate sampling of ice-covered channels, the project, in cooperation with the Geological Survey's Wisconsin District, developed the DH-75; a small lightweight isokinetic sampler. Air and water passages were designed with thermal capacities low enough to permit rapid thawing with a small hand torch.

To ease the task of collecting large samples necessary for the extensive laboratory analysis, project personnel designed a new depth-integrating sampler for cable suspension. The D-74 sampler will accommodate a special container with a capacity of one quart. The D-49 and earlier models will accept only pint containers.

To better define the suspended-sediment discharge of ephemeral streams, the project designed a special sampler designated the U-73. Designed for attachment to a fixed base on a streambed, the sampler will automatically collect and then seal a pint sample. The sampler is float operated and can be set to activate during either the rising or falling portion of the hydrograph. The unit overcomes recirculation problems sometimes encountered in single-stage samplers.

To improve the quality of depth-integrated samplers, a special timing device was designed. By means of an audible signal the unit establishes a cadence so that the operator can maintain steady transit rate.

For rapid concentration measurements the project designed and tested a sensitive bulk-density meter. The device is basically a hydrometer except that the sample is placed inside the shell. The shell which is neutrally buoyant, is then submerged in clear water which serves as a reference. A slender displacement rod pierces the water surface and registers the submerged weight of the sediment contained within the shell. With precise temperature control, the threshold of detection is about 50mg/liter. A project report, "An Investigation of a Device for Measuring the Bulk Density of Water-Sediment Mixtures," is available from the project office.

Equipment Supply. Supply, repair, and calibration of a variety of samplers and analyzers was continued. A catalog and detailed equipment manuals are available upon request.

Other Pertinent Items. End-of-the-year status of sediment sampling and analyzing equipment manufactured and distributed to Federal agencies is tabulated as follows:

Instrument		Sold since 1940	Sold during year	Number on hand
US D-49	Sampler, depth integrating	798	34	1
D-73	Sampler, depth integrating	5	5	0
US DH-48	Hand Sampler	1842	177	13
US DH-59	Hand-line sediment sampler	726	97	5
US DH-75	Hand sampler	19	19	1
US P-61	Sampler, point-integrating	115	20	19
US P-63	Sampler, point-integrating	25	6	1
US P-72	Sampler, point-integrating	5	5	0
US BM-54	Bed-material sampler	126	6	4
US BMH-53	Bed-material hand sampler	226	14	3
US BMH-60	Bed-material hand sampler	121	22	1
US-SA	Particle-size analyzer	66	1	4
PS-66	Pumping sampler	19	0	0
PS-67	Pumping sampler	42	1	0
PS-69	Pumping sampler	162	80	2
PS-73	Pumping sampler	1	1	0

Inter-Agency Sedimentation Project, St. Anthony Falls Hydraulic Laboratory, Third Avenue S.E. and Hennepin Island, Minneapolis, Minnesota 55414.

FOREST SERVICE

San Dimas Equipment Development Center

The Equipment Development Center in San Dimas, California, has worked on three projects directly related to erosion and sedimentation. These are briefly described as follows:

Metal Energy Dissipators for Installation in Flumes and Culverts

Several years ago a project was initiated to develop a metal energy dissipator which could be attached to the end of a flume or culvert to absorb the energy and spread the water in order to eliminate the soil erosion potential of the water flow. From initial surveys and investigation the following design criteria were established: self-cleaning, lightweight, self-anchoring, fabricated from material economically available, able to withstand impact from objects carried in the water flow, able to dissipate specific energies ranging from 0 to 10 feet, easily maintained and/or repaired, used on culverts installed on slopes ranging from 0% to 66.6%. The Forest Service entered into a cooperative agreement with the Bureau of Reclamation to develop a dissipator to meet these requirements.

The development work was completed in 1970 and 15 units were fabricated. They were installed in a wide variety of conditions throughout the country. They have been observed in operation for over 4 years now, and have proven to be very satisfactory. Designs are available from 18" to 36" sizes. A final report will be available in the fall of 1975.

Flexible Downdrains for Culvert Drains

A neoprene-coated nylon material has been developed to provide erosion protection on irregular slopes below culverts and over-the-side drains. This material, sewed into a tubular section, with attached tie-down grommets, offers lower costs, simpler installations, and improved appearance as compared with standard shapes of corregated metal pipe. These devices have been installed in a number of areas in the West for several years and have performed very satisfactorily. Purchase specifications are available. A report "Flexible Downdrains" number 7700-6, January 1974, is also available.

Roadside Slope Revegetation

Effective revegetation is a primary method of protecting roadside slopes from erosion. Information on current practices and equipment use was gathered from 25 National Forests and from other sources. In seedbed preparation, seeding, fertilization, mulching, etc., a variety of methods and equipment are used, depending primarily on conditions in specific locations. A review of earlier and current literature yields suggestions for possible improvements in techniques. New equipment is needed, and suggested equipment for scarification, planting, and seeding of steep slopes has been recommended. All of this is covered in a report, "Roadside Slope Revegetation" number 7700-8, dated June 1974.

Rocky Mountain Forest and Range Experiment Station

Subalpine Forest Zone, Upper Colorado River Basin

Published

Leaf, Charles F. 1974. A model for predicting erosion and sediment yield from secondary forest road construction. USDA Forest Service Res. Note RM-274, 4 p. Rocky Mt. Forest and Range Experiment Station Fort Collins, Colorado 80521.

One of the more visible and controversial environmental impacts associated with timber harvesting and development in central Colorado is road construction. Better tools are needed to quantify the effect of soil disturbance on erosion onsite, and the subsequent yield of sediment downstream.

This Note summarized available data and from this base, proposes a preliminary model for predicting an index of onsite erosion and downstream sediment yield.

Leaf, Charles F. and Brink, Glen E. 1973. Hydrologic simulation model of Colorado subalpine forest. USDA Forest Service Res. Pap. RM-107, 23 p. Rocky Mt. Forest and Range Experiment Station, Fort Collins, Colorado 80521.

The need for a planning tool which objectively evaluates the potential hydrologic effects of watershed management is obvious in view of accelerated water use and the Forest Service goal of sound multi-resource management. A simulation model specifically designed to determine the probable hydrologic changes resulting from watershed management in the Colorado subalpine zone has been developed. The model simulates the total water balance on a continuous year-round basis and compiles the results from individual hydrologic response units into a "composite overview" of an entire drainage basin. The model is being tested on representative areas throughout the Rocky Mountain Region. Detailed flow chart descriptions of the various components of the model and a program listing are available.

Unpublished

Long-term studies on subalpine watersheds in central Colorado where much of the sediment yield comes from melting snow, show that most of the erosion impact occurs within a few years after timber harvesting, and it is associated with roadbuilding. Furthermore, erosion damage is minimum with no apparent reduction in water quality. A model that describes the disturbed area in terms of watershed slope and engineering parameters has been developed to provide land managers with a tool for evaluating the potential impact of various road systems. The model is applicable to high mountain watersheds with deep, coarse textured soils capable of absorbing most of the water produced during peak snowmelt where the road system has been carefully constructed and there is a high standard of followup road maintenance.

Southern Forest Experiment Station

Sediment losses from three pine-hardwood catchments in the Ouachita Mountains of central Arkansas have been monitored since 1963. Losses from the catchments averaged less than 14 pounds per acre per year during the 1963-1969 period. Average annual losses ranged from 26.4 pounds per acre in 1968 to 5.6 pounds in 1963. Variances in annual losses were attributed to year-to-year differences in storm sizes, rainfall intensities, and discharge rates.

Early in 1970, vegetative conditions on two of the three catchments were modified. One catchment was clearcut and the other one had the understory removed and the overstory thinned to a basal area of 60 square feet per acre. Increased sediment losses were observed for nearly three years after treatment. In the year following treatments, losses from the clearcut were over 11 times greater than before treatment and nearly 5 times greater on the thinned catchment. During 1971 and 1972 losses were 1.5 to 3 times greater, but since that time, losses have been similar to the period before treatment.

Water quality also has been monitored on these catchments since 1973. Nutrients being studied include: nitrogen, phosphorus, potassium, calcium, iron sodium, magnesium, manganese, and total dissolved salts.

North Central Forest Experiment Station

Published

Hansen, Edward A. 1974. Total sediment discharge sampling over sills. Water Resources Research 10(2):375.

Easily installed wooden sills permit collection of bedload sediment normally missed in the unsampled zone. Sills also (1) provide a rigid unchanging control at which to sample, (2) reduce the chance of sample bias from sediment stirred up by the water, and (3) permit control of the sampling interval because the sample points can be marked directly on the sill.

Hansen, Edward A. 1975. Sedimentation basin design. U.S. Forest Service Engineering Technical Information Service Field Notes 7(1): 1-5.

Sediment basins can be used to remove bedload sediments from a stream. This paper gives design information for in-channel use and discusses criteria for site selection and construction.

Unpublished

Two studies are in progress investigating the effects of sand sediments on trout habitat and the trout population. In one study, sand sediment is being added daily to a stream so as to increase bedload discharge by a factor of four. At the end of the third year of the five year treatment period there has been considerable channel fill and major changes in fish habitat, but no response in the fish population. The lack of fish population response is considered inconclusive at present due to only three post-treatment years of data. In a companion study, sand bedload is being trapped by a sediment basin and removed from a stream. Comparisons are being made between the trout population response downstream from the basin as the sand bedload discharge gradually falls to zero, and the population in the undisturbed stream above the basin. A check is also being made to determine the adequacy of sedimentation design data for in-channel use.

Pacific Southwest Forest & Range Experiment Station

Published

Anderson, Henry W. 1974. Sediment deposition associated with rural roads, forest fires, and catchment attributes. Proc. Int. Symp. Effects of Man on the Interface of the Hydrologic Cycle with the Physical Environment. Int. Assoc. Sci. Hydrol. Pub. No. 113, P. 87-95.

In California almost all good reservoir sites have been taken, so prevention of loss of capacity of present reservoirs is important. Reservoir deposition measurements in 48 northern California reservoirs with catchment areas greater than 5 square kilometers were quantitatively related to watershed, streamflow, snow frequency, and land use variables, including 10 different classes of roads. Streamside location of roads was the greatest contributor to sedimentation, twice that of other locations, with improved secondary roads near streams being the greatest contributor. The differences in sedimentation associated with roads give planners a quantitative basis for decision among alternative locations and designs of roads in forest areas.

Anderson, Henry W. Fire effects on water supply, floods and sedimentation. Proc. Conf. on Fire Ecology of the Pacific Northwest. (In Press.)

Land management decisions following forest fire, particularly post-fire treatment, depend on probable damage to water supply and flood and sediment damage. In timber-type watersheds of the northwestern United States, forest fires and slash burning following logging have increased stream turbidity by 4 to 67 times--more than 80 ppm; summertime stream temperatures have been raised by 13 to 16 degrees F.

and stream oxygen content reduced to a degree deleterious to fish. Annual streamflow increases have ranged from 3.5 to 9 inches; flood flows increased also, with an increase of 10 to 20 percent in annual maximum flows. Effects of forest fires or slash burning on chemical water quality are minimal except where surface runoff is involved. Post-fire use or treatment of burned-over areas may augment or mitigate the hydrologic effects of burning.

Anderson, Henry W. Relation of reservoir sedimentation to catchment attributes, landslide potential, geologic faults, and predicted density. Int. Symp. on Hydrological Characteristics of River Basins Tokyo, Japan, Dec. 8-11, 1975.

Landslides are thought to be a major source of sedimentation and streamflow turbidity, so if the recently published map of landslide hazard classes in California was found to aid in predicting sedimentation, a major unknown in forest land management would be removed. The amount of deposition in 48 California reservoirs formed the basis of a test of the mapped classes. Of the six classes, only four were related to sedimentation; classes 3 and 4 produced significantly different sedimentation rates than classes 1 and 2; for example, classes 3 and 4, which dominate in the Klamath Mountain region of northwestern California have a sedimentation rating 37 percent higher than the Sierra Nevada, which generally has class 2 landslide rating. Classes 5 and 6 are either misclassified or their extent was not sufficient for an evaluation. The study showed both the utility and the limitations of the landslide map in evaluating sedimentation hazard in forest land use planning.

Anderson, Henry W. Relative contributions of sediment source areas and transport processes. Proc. Sediment Yield Workshop, USDA Misc. Publ. ARS-S-40. (In Press.)

Differences in expected streamflow turbidity from areas subject to forestry activities may condition management decisions. Streamflow turbidity--percent of days with turbid water and percent of all water that was turbid--was shown to be quantitatively related to the silt, clay, and gravel content of watershed soils. More turbid days occurred with high silt and clay content and high soil erodibility; on the other hand, areas with soils with the greatest gravel content, for example, had only one quarter as many days with turbid streamflow as areas with non-gravelly soils. Hence, the dilution potential of streamflow from areas with different soil characteristics may suggest a need for different management decisions.

Intermountain Forest and Range Experiment Station
U. S. Forest Service

Sedimentation Research at the Forestry Sciences Laboratory, Boise, Idaho

Sedimentation data are being collected on 12 study watersheds representing conditions found on the granitic soils of central Idaho. Annual sediment yields are determined by measuring deposition in small debris basins. Watershed sizes range from 770 to 1,625 acres. Trap efficiencies for the catchment basins are estimated to be in excess of 80 percent because of the coarse nature of the sediments produced from the granitic bedrock in the area.

In addition to annual sediment yields, instantaneous sediment production data are being collected on the seven study watersheds in the Silver Creek drainage of the Payette River system. Data are collected with the use of a splitter sampler designed to cut a section out of the channel flowing over an overflow section installed in the channel. The sampler is sweeped across the overflow section to assure sampling any variations in sediment flow across the width of the channel. This sampling technique provides a total load measurement.

There are a number of objectives for the total load measurements: (1) to provide instantaneous measurements of sediment discharge for modeling purposes; (2) to relate to the integrated sediment yield values obtained from the sediment dams; (3) to provide a measurement of total sediment production for nutrient outflow studies; and (4) to relate sediment production to aquatic habitat studies.

Data were collected last year and results were encouraging. One advantage of a sampler of this type is that a water discharge measurement is obtained along with the sediment sample. A comparison of a number of samples indicated that the sediment sampler discharge measurements averaged about 9 percent greater than flow obtained from nearby Parshall flumes. Careful checking of the sampler indicated that the flow sampling bias was due to improper sampler dimensions construction. A new sampler has been designed and will be tested this spring. Additional data collection this spring will include suspended sediment collected with a DH 48 sampler and bedload sediment production obtained with the Helley Smith bedload sampler.

Total sediment samples taken in the field are separated into coarse (d>.2 mm) and fine (d<.2mm) fractions for chemical analyses. Coarse sediment samples are separated into lithic and organic fractions by air flotation. Lithic samples are mounted on slides, polished, and examined with a petrographic microscope. Minerals identified are characterized chemically. The organic fraction is ground in a Wiley mill, digested in perchloric acid and analyzed chemically. Fine sediment samples are digested in perchloric acid and analyzed chemically. In addition, organic matter in the fine sediment is determined by dry combustion. Chemical analyses on digested sediment include Na, k, Ca, Mg, Fe, total P, and SO_4 .

A report dealing with time trends in channel sediment size composition in salmon and steelhead spawning areas in the South Fork Salmon River of Idaho was presented at the recent North American Wildlife Conference. An abstract of the paper is as follows:

> The South Fork Salmon River is an important chinook salmon and steelhead trout fishery in the mountains of central Idaho. Because of increased logging, road construction, and severe floods after 1950, excessive sediment--especially fines--was deposited in the river channel, seriously damaging the major spawning areas by 1966. A study, using a network of closely spaced stream channel cross sections, evaluated the riverbed surface materials by size in four major spawning areas in the upper half of the river. The size composition of materials favorable for spawning improved greatly from 1966 to 1974; a large decrease in fines was accompanied by a large increase in gravels and a lesser increase in rubble. The change in spawning materials resulted from a reversal of the previous high rate of sediment flow into the channel system compared to sediment flow out of the system. The reductions in watershed erosion and sediment entry into the river resulted from: (1) a moratorium on logging and road construction activities on the watershed; (2) natural watershed stabilization processes; and (3) a watershed rehabilitation program. This study demonstrates that logging and road construction on high erosion hazard lands, such as those found in the South Fork Salmon River watershed, must be carefully planned and programmed over both time and space to avoid degradation of salmon spawning areas.

Stability of Surface Mine Spoils and Tailings and the Quality of Water Therefrom in the Intermountain Region

During the past 2 years, personnel of Research Work Unit INT-1603, as part of the Program SEAM effort, have been involved in developing new methods and techniques to rehabilitate numerous kinds of surface mine spoils and tailings throughout the Intermountain and Northern Rocky Mountain Regions. An adjunct to this effort has been the measurement and evaluation of the effects of different mining activities on erosion, sediment production, and the quality of both overland and seepage flow from these sites. This work is sufficiently recent that no results are yet available for presentation. Some of the studies are being done in-house, while others are being carried out through extramural cooperative agreements with various universities. In-house studies include:

(1) Evaluation of erosion from high intensity rainfall on high sodium content spoils on a coal strip mine in eastern Montana,

(2) The effects of mining activities on alpine tundra sites of the Beartooth Plateau in Montana on the chemical quality of seepage flow through six large lysimeters.

(3) Determination of the quality of overland and subsurface seepage flow from an acid-heavy metal-producing cobalt-copper strip mine in east central Idaho.

(4) Evaluation of the impacts of surface mining and of rehabilitation alternatives on overland flow and soil erosion from phosphate strip mine spoils in southeastern Idaho.

Extramural research in this connection includes:

(1) Development of measures for reducing acid mine water flows from underground portals of a cobalt-copper mine.

(2) Determination of mass stability of overburden spoil dumps of surface phosphate mines in southeastern Idaho.

(3) Determination of the hydrologic and stability behavior of major mine spoils and tailings in Utah in relation to water quality.

Northeastern Forest Experiment Station
Project 1601 - Durham, New Hampshire

Bormann, F. H., G. E. Likens, T. G. Siccama, R. S. Pierce, and J. S. Eaton. 1974. The export of nutrients and recovery of stable conditions following deforestation at Hubbard Brook. Ecol. Monogr. 44(3): 255-277.

Forest lands that are harvested for wood products or otherwise exposed to some disruption may be subject to removal of nutrients and particulate matter (sediment). Deforestation and growth repression for 3 years in a mountainous hardwood forested watershed increased particulate matter export exponentially to a maximum of 38 metric tons km^{-2} yr^{-1} in the third year--about 15 times export from the undisturbed forest. The average ratio of net annual export of dissolved substance to particulate matter was 2.3 in the mature ecosystem and > 8.0 during the first 2 years after deforestation. Nutrient flux and erosion losses returned to previous levels with increased biotic regulation (about 4 years after cessation of herbicide applications). These results of export losses and reestablishment after disturbance have management implications in a wide range of terrestrial ecosystem.

Northeastern Forest Experiment Station
Project 1602, Parsons, W. Va.

Aubertin, G. M. and J. H. Patric. 1974. Water quality after clearcutting a small watershed in West Virginia. J. Environ. Quality 3(3): 243-249.

People esthetically offended by clearcutting often maintain that accelerated soil erosion, stream pollution, and site deterioration will necessarily accompany this phase of even-aged forest management. 78 acres of hardwood forest on an 86-acre watershed were clearcut; the remaining 8 acres were selectively cut to maintain full shade on the stream. With logging roads carefully located and managed, soil erosion only negligibly increased. Water temperature and dissolved and suspended solids in the stream were virtually unaffected by clearcutting. These results must remove some stigma from foresters, both regionally and nationwide, who choose the even-aged silvicultural system for managing forest land.

Patric, James H. 1974. Soil-water relationships in uncut and cut forests. In Notebook for Logging Road and Skid Trail Workshops. West Virginia Univ. Coop. Ext. Serv.

Logging roads and skid trails comprise by far the greatest sources of eroding soil and sediment from the eastern hardwood forest. This brief paper summarizes some soil-water relations before and after forest cutting. It served as a basis for oral presentation on forest hydrology, providing take-off points for speakers that followed who were concerned with soils, engineering, and management aspects of logging roads. These workshops, held throughout West Virginia, have been well received by loggers, conservationists, and the concerned public.

Troendle, C. A., G. M. Aubertin, and J. N. Kochenderfer. 1974. Decomposition of the forest floor following deforestation and annual herbiciding. Agronomy Abstracts, Div. S-7, 66 Annual Meet., Amer. Soc. Agron. p. 179, Nov. 1974.

Severe forest cutting, particularly clearcutting, is commonly held to deplete soil organic matter and thereby to accelerate soil erosion and site deterioration. Herbicides applied for 4 years maintain a 25-acre clearcut barren and soils were sampled frequently to quantify changes in organic matter. The litter layer disappeared in 1 year. The F and H layers appreared to diminish but net weight of soil organic matter actually remained nearly constant. Soil density increased while infiltration rates decreased but neither changes was drastic enough to materially influence soil erosion or stream turbidity. Forest regrowth has been vigorous during the 4 years since herbiciding ceased, Results from this extreme treatment will help to alleviate fears commonly expressed that conventional cutting, and particularly clearcutting, adversely affect forest site quality.

Cutis, Willis R. 1974. Sediment yield from strip-mined watersheds in Eastern Kentucky. In Second Res. and Applied Technol. Symp. on Mined-Land Reclamation, Oct. 22-24, Louisville, Ky. National Coal Assoc., The Coal Building, 1130 17th St., NW, Washington, D. C. pp. 88-100.

Measurements of sediment accumulation in debris basins below surface-mined lands in eastern Kentucky show highest sediment yield during the first 6 months after mining. The erosion rate diminishes to fairly low levels within 3 years. Methods of mining and handling spoil affect sediment yield, as does the speed with which vegetative cover is established.

White, James L. and William T. Plass. 1974. Sediment control using modified mining and regrading methods and sediment control structures. In Second Res. and Applied Technol. Symp. on Mined-Land Reclamation, Oct. 22-24, Louisville, Ky. National Coal Assoc., The Coal Building, 1130 17th St., NW, Washington, D. C. pp. 117-123.

This case history describes a mining operation from the construction of sediment control structures through regrading and revegetation. Data on sediment yield and water quality allow assessment of the effectiveness of the sediment control methods.

GEOLOGICAL SURVEY

Laboratory Activities

A wide range of activities relative to fluvial sediment processes continued throughout the year in various district, regional, and project laboratories of the Geological Survey. Laboratory investigations included the routine analysis of concentration and particle size, studies of mineralogy of sediments, organic content, and the interactions of sediment with dissolved ions.

Research Activities

Following are brief summaries of the active research projects concerned with broad processes or principles of fluvial sedimentation. In addition to the projects listed below, many other studies of an areal or applied research nature are being conducted as part of the Geological Survey's cooperative program. Information on such projects appears in this report under the WRC region or subregion in which the study is being conducted.

Missouri and Lower Colorado Regions

Special studies

Studies of the effect of simulated rainfall on the hydrology of small natural watersheds (4,000 sq. ft) are being conducted in cooperation with the Bureau of Land Management. Included in the studies will be the determination of sediment yield from the watersheds under simulated rainfall of 1.5 inches in 45 minutes. Sites to be studied will be at several locations in the western states, including surface-mining reclamation projects.

A 5-year study to obtain baseline sediment yields and to assess the impact of mining on sediment yields was begun in cooperation with the Bureau of Land Management. PSIAC estimates were made and several stock reservoirs were spudded on four 2,000 acre sites in Colorado, Montana, Utah and Wyoming. Preparation of a source-area sediment yield map and an assessment of sediment transport was begun for each site.

Missouri Region
Tongue-Powder Subregion

A reconnaissance was done and data collection was started on a 5-year study to evaluate sediment yields and assess surface-mining impacts on sediment yields in coal-rich Campbell County. Four stock reservoirs were spudded, and estimates of source-area sediment yields were made for several erosion types using the PSIAC method.

Upper Colorado Region
Yampa-White Subregion

The following activities were done under a research project begun in 1972 to evaluate hillslope and channel erosion and sediment transport in the Piceance Creek and Yellow Creek basins, northwestern Colorado with regard to probably oil-shale development. This project is being done in cooperation with the Colorado District, Water Resources Division.

- A. A report was prepared containing the following:
    1. An assessment of the geomorphic processes active in the Piceance basin and their relation to erosion and sediment transport.
    2. A source-area sediment yield map for the Piceance Creek and Yellow Creek basins, which was prepared from estimates made with the Pacific Southwest Interagency Committee (PSIAC) method.
    3. Basin sediment yield estimates, made with the PSIAC method, for these two creeks at their mouths and for 30 sub-basins tributary to them.
    4. Estimates of sediment yields that would occur during and following various development activities.
    5. Hillslope transect and channel cross-section measurements.
- B. Twelve additional channel cross-sections and several more hillslope transects were installed and surveyed. All previously installed transects and cross-sections were resurveyed.

Colorado Headwaters Subregion

Sediment yield from four small drainage basins near Wolcott, Colorado, was measured annually during the period 1965-1973. The measurements were made in conjunction with a study of the hydrologic effects of vegetation change from brush to grass cover. The basins are from 5 to 10 acres in size and sediment was measured volumetrically in reservoirs. Field measurements were discontinued and a report is scheduled to be completed in 1975.

At Badger Wash west of Grand Junction, Colorado, annual reservoir surveys of sediment yield from 19 small drainage basins were made during the period 1954-73. Measurements were made for a study on the effects of grazing exclusion on the hydrology of semi-arid rangeland that was done in cooperation with Bureau of Land Management, Bureau of Reclamation, and Fish and Wildlife Service. A final report is now being prepared.

Columbia-North Pacific Region

Oregon Coastal Subregion

Reconnaissance studies began of sedimentation phenomena in intertidal envieonments of three adjacent estuaries along the Oregon Coast. The studies are directed toward the problem of excessive estuarine sedimentation related to both natural processes and to man's activities (dredging, logging, etc.). Seasonal changes in the relative influence of sediment-transport mechanisms are being examined qualitatively during periodic field surveys, and the stratigraphic record of past sedimentation activities in representative environments is being investigated.

Measurement and Prediction of Sediment Transport Phenomena

Samplers for directly measuring bedload discharge in sand- and gravel-bedded streams are being developed and calibrated as a part of a study of sedimentation phenomena. Several newly-designed samplers, including a pit-type sampler, as well as the Helley-Smith sampler and modifications of several other existing samplers will be studied and calibrated in the laboratory to provide a complement of one or more samplers with known sampling efficiencies for measuring transport throughout the wide range of sedimentation conditions encountered in nature.

Hydraulic Geometry of Alluvial Channels

The study deals with the relations between water-surface width, mean depth and mean velocity versus water discharge, at a section on an alluvial stream. Data for 170 such sections have been obtained, from sites all over the USA. Two approaches are being pursued. In one approach, the observed relations are being used to test the minimum-variance theory of W. B. Langbein. The second approach is to use the observed relations to find empirical formulae for future predictions.

SOIL CONSERVATION SERVICE

Publications and Special Studies

A cooperative study by the United States Geologic Survey and Soil Conservation Service is continuing on Little Elm Fork of the Trinity River near Denton, Texas. The overall effect of land treatment and floodwater retarding structures on the main channel is being studied. Channel sections have been monumented to determine changes by degradation or aggradation.

In California a guide for erosion control on agricultural land was prepared. It describes how the Universal Soil Loss Equation can be used to predict erosion. The guide also describes sediment control alternatives concerning either agricultural lands or construction sites.

A paper entitled "Computation of Soil Erosion in Idaho Using the Universal Soil Loss Equation" was presented by H. R. Smith, River Basin-Watershed Planning Staff at the Pacific Northwest Regional Meeting of the ASAE, Twin Falls, Idaho.

The Soil Conservation Service in New York completed a statewide erosion and sediment inventory (EASI) in August 1974. This inventory was based on small watersheds and evaluated the amount of erosion occurring on various land uses, as well as streambanks and roadbanks. The information was summarized for watersheds, counties and the entire state. Sediment delivery was computed for some 150 selected watersheds in the state and the delivery points displayed on maps. The inventory was made on lands drained mainly by the North Atlantic and Great Lakes Basins. The report, Erosion and Sediment Inventory, New York (August 1974), is available from the SCS State Conservationist, Syracuse, New York.

A "Shore Erosion Inventory" was completed by SCS in November, 1974, for seven eastern counties in North Carolina. The study was initiated in an attempt to determine the magnitude of the problem and to determine the primary factors affecting the rate of shore erosion along sounds and rivers. Several factors were correlated, such as, shoreline exposure, wave fetch, soil type, bank height and land use.

Also in North Carolina, a study to determine the effectiveness of an SCS-designed sediment trap was initiated. Data included measurement of sediment inflow and outflow. The data showed the sediment trap to be retaining 50-60 percent of the sediment inflow.

Trap Efficiency of Small Flood-Retarding Reservoirs

The object of this study is to better understand the relative importance of the factors that determine how much of the sediment that reaches a small reservoir will be retained.

Such factors as the nature of the sediment, the temperature and quality of the native water transporting the sediment, the stream runoff characteristics, the shape and volume of the reservoir basin, the methods of operating the reservoir, and perhaps other factors affect trap efficiency.

The trap efficiency investigation, initiated by the Soil Conservation Service in 1955, was continuing at two small reservoirs at the end of 1974. A reservoir on Highland Creek in California and one on Rock Creek in Maryland are all that are under investigation out of a total of eighteen.

The characteristics of sediment and patterns of flow entering the reservoirs are measured at intervals by the Geological Survey. The sediment leaving the reservoir is also measured by them to determine the rate and amount passing the dam, and sediment samples are obtained for further analysis.

Periodic measurement of the amount of sediment deposited in the reservoir and representative sampling is done by the SCS.

APPENDIX A

This appendix is an excerpt from the Catalog of Information on Water Data, Water Quality Section, compiled by the Geological Survey, Office of Water Data Coordination (OWDC). The excerpt is a list, as of January 1974, of long-term (3 years of more) water quality sites at which sediment data have been collected. The Information was supplied to OWDC by Federal, State, and local agencies. Data resulting from, or other information about, these activities can be obtained from the reporting agencies. Information about other sediment data activities and sediment studies can be found in another section of the Catalog of Information on Water Data, entitled "Index to Areal Investigations and Miscellaneous Water Data Activities."

Preceeding the tabular material is a map of the conterminous United States showing the geographical location of the sediment data activities listed in this appendix.

Explanation of Tabular Items

Basin Code: Number and Letter--Data collection sites are plotted on station-located maps, scale 1:1,000,000. Number and letter refer to OWDC map unit and subunit. Map numbers covering the United States and other areas are given in Figure 1 and Table 1.

OWDC Number--These are unique numbers used by OWDC in their information storage and retrieval system.

Agency Station Number, Station Name, Latitude, and Longitude--These items were designated by the reporting agency. The following abbreviations are used for designating stations:

AB	Above	EF	East Fork
BL	Below	MF	Middle Fork
B	Branch	NF	North Fork
EB	East Branch	SF	South Fork
MB	Middle Branch	WF	West Fork
NB	North Branch	L	Little
SB	South Branch	LK	Lake
WB	West Branch	M	Middle
BK	Brook	N	North
C	Creek	NR	Near
Ca	Canel	P	Pond
CL	Coulee	R	River
D	Ditch	RE	Reservoir
DI	Distributary	RN	Run
E	East	S	South
ES	Estuary	TR	Tributary
F	Fork	W	West

State and County--State and other area abbreviations, and county codes are listed in Table 2.

Site--Type of Water Body sampled. Abbreviations used:

Reser. - Reservoir
Estary - Estuarine Zone

Period of Record--The calendar year of the beginning and ending of station activity. Because this listing was adapted from a more comprehensive listing of water quality data acquisition activities, the periods listed may not pertain to the record of sediment data.

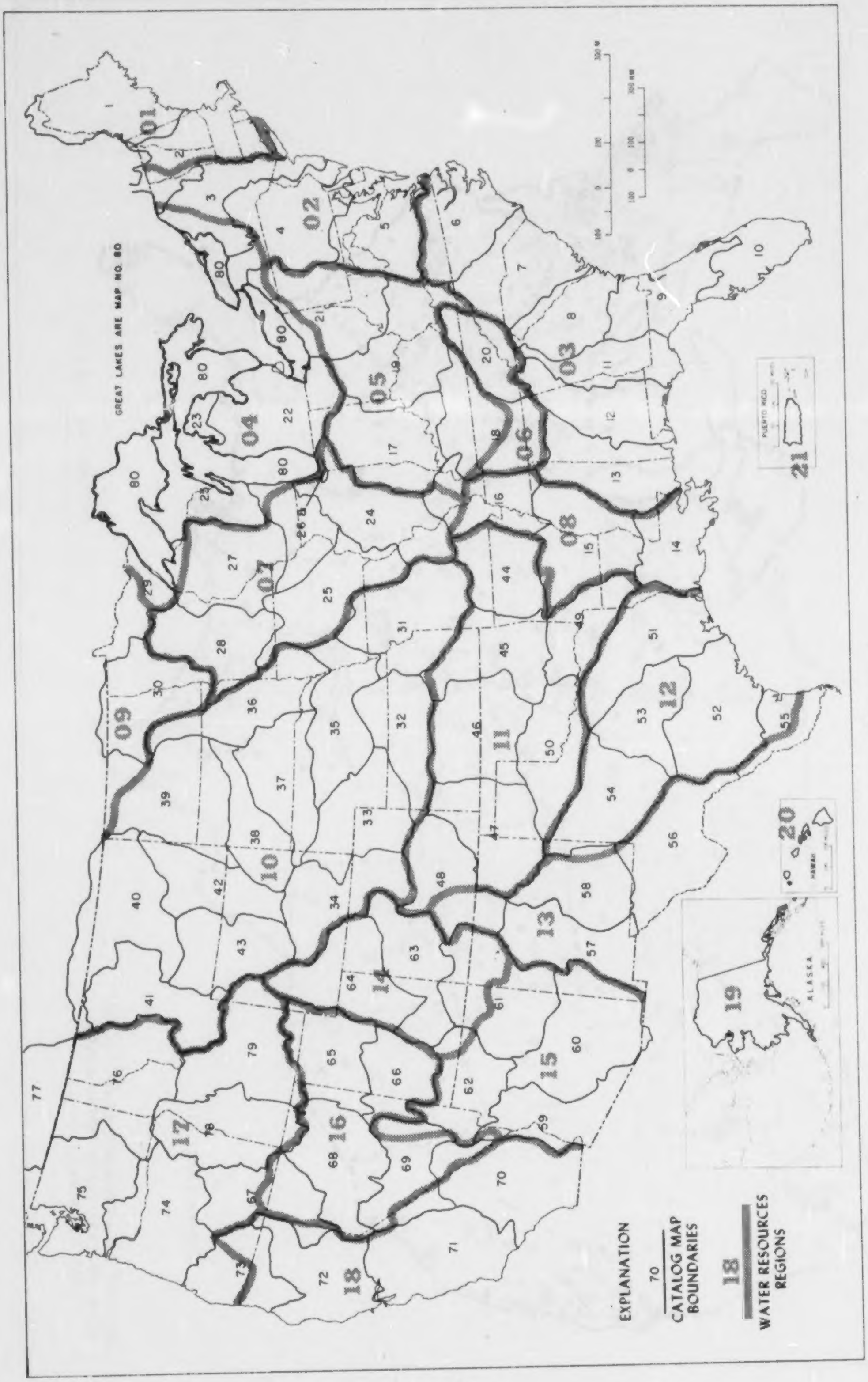
Interrupted Record--An asterisk indicates that during the period of record, the collection of water quality data was suspended one or more times for an interval of one year or more (see also "Period of Record").

Sediment--Frequency of measurement is shown by the following codes:

1 - Continuous
2 - Seasonal
3 - Daily
4 - Weekly
5 - Monthly
6 - Quarterly
7 - Annually
8 - Other Periodic
T - Telemetered

An asterisk indicates that the measurement was either discontinued or the frequency was not reported.

Agency Reporting--Agency codes are given in Table 3 and 4.


GREAT LAKES ARE MAP NO. 80
EXPLANATION
70
CATALOG MAP BOUNDARIES
18
WATER RESOURCES REGIONS
ALASKA
HAWAII
PUERTO RICO
01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
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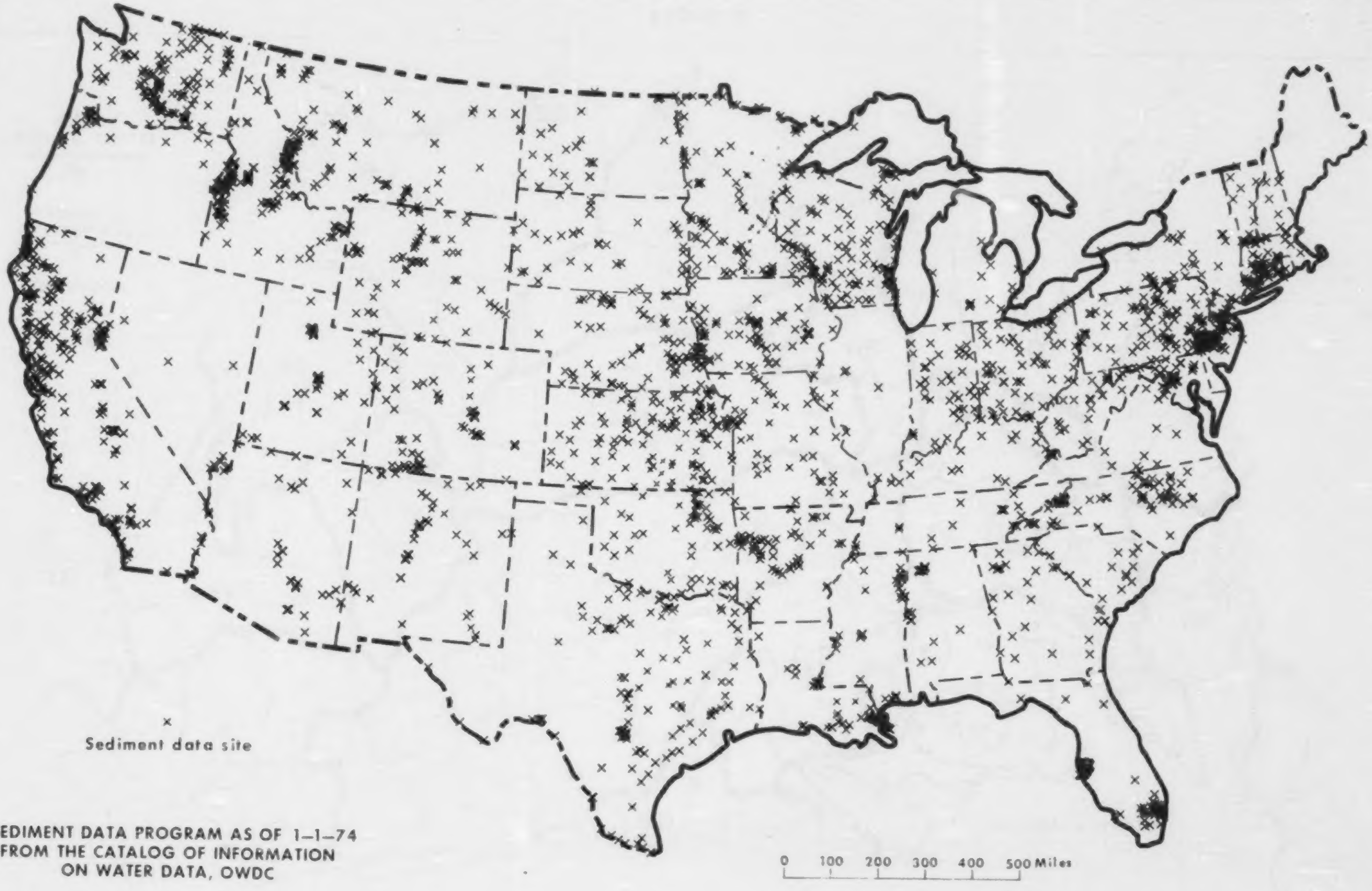
18
19
20
21

Figure 1



×
Sediment data site
0 100 200 300 400 500 Miles

SEDIMENT DATA PROGRAM AS OF 1–1–74
FROM THE CATALOG OF INFORMATION
ON WATER DATA, OWDC

Table 1 - States (and other areas) and their coverage by OWDC maps

States	Map number
Alabama	11, 12, 13, 18, 20
Alaska	84
Arizona	59, 60, 61, 62
Arkansas	15, 16, 44, 45, 49
California	59, 67, 68, 69, 70, 71, 72, 73
Colorado	32, 33, 34, 47, 48, 61, 63, 64
Connecticut	2
Delaware	4, 5
District of Columbia	5
Florida	9, 10, 11, 12
Georgia	8, 9, 11, 12, 18, 20
Hawaii	85
Idaho	65, 76, 78, 79
Illinois	16, 17, 24, 25, 26, 80
Indiana	17, 19, 22, 24, 26, 80
Iowa	25, 26, 27, 28, 31, 35, 36
Kansas	31, 32, 33, 45, 46, 47
Kentucky	16, 17, 18, 19
Louisiana	13, 14, 15, 49, 51
Maine	1, 2
Maryland	4, 5, 21
Massachusetts	2, 3
Michigan	22, 23, 27, 29, 80
Minnesota	25, 27, 28, 29, 30, 36, 80
Mississippi	13, 14, 15, 16, 18
Missouri	16, 24, 25, 31, 35, 44, 45
Montana	38, 39, 40, 41, 42, 43, 76
Nebraska	31, 32, 33, 35, 36, 37, 38
Nevada	59, 62, 65, 66, 67, 68, 69, 70, 78, 79
New Hampshire	1, 2
New Jersey	3, 4
New Mexico	47, 48, 50, 54, 56, 57, 58, 60, 61, 80
New York	2, 3, 4, 21
North Carolina	6, 7, 8, 19, 20
North Dakota	30, 36, 39, 40, 42
Ohio	17, 19, 21, 22, 80
Oklahoma	45, 46, 47, 49, 50
Oregon	67, 72, 73, 74, 76, 78
Pennsylvania	4, 5, 21, 80
Rhode Island	2
South Carolina	7, 8
South Dakota	28, 30, 36, 37, 38, 39
Tennessee	12, 16, 18, 20
Texas	46, 47, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58
Utah	61, 62, 63, 64, 65, 66, 79
Vermont	2, 3
Virginia	5, 6, 7, 19, 20
Washington	74, 75, 76, 78
West Virginia	5, 19, 21
Wisconsin	23, 24, 26, 27, 29, 80
Wyoming	33, 34, 37, 38, 39, 41, 42, 43, 64, 65, 79
Other areas	
Puerto Rico	94

Table 2 – Symbols used for States (and other areas) and code numbers used for counties and independent cities

STATES AND THEIR SYMBOLS

Alabama	AL	Hawaii	HI	Massachusetts	MA	New Mexico	NM	South Dakota	SD
Alaska	AK	Idaho	ID	Michigan	MI	New York	NY	Tennessee	TN
Arizona	AZ	Illinois	IL	Minnesota	MN	North Carolina	NC	Texas	TX
Arkansas	AR	Indiana	IN	Mississippi	MS	North Dakota	ND	Utah	UT
California	CA	Iowa	IA	Missouri	MO	Ohio	OH	Vermont	VT
Colorado	CO	Kansas	KS	Montana	MT	Oklahoma	OK	Virginia	VA
Connecticut	CT	Kentucky	KY	Nebraska	NB	Oregon	OR	Washington	WA
Delaware	DE	Louisiana	LA	Nevada	NV	Pennsylvania	PA	West Virginia	WV
District of Columbia	DC	Maine	ME	New Hampshire	NH	Rhode Island	RI	Wisconsin	WI
Florida	FL	Maryland	MD	New Jersey	NJ	South Carolina	SC	Wyoming	WY
Georgia	GA								

STATES, COUNTIES, AND INDEPENDENT CITIES

[States are arranged alphabetically by their symbols; counties and independent cities are in numerical order within each State]

AK	**Alaska**
AL	**Alabama**
	County
001	Autauga
003	Baldwin
005	Barbour
007	Bibb
009	Blount
011	Bullock
013	Butler
015	Calhoun
017	Chambers
019	Cherokee
021	Chilton
023	Choctaw
025	Clarke
027	Clay
029	Cleburne
031	Coffee
033	Colbert
035	Conecuh
037	Coosa
039	Covington
041	Crenshaw
043	Cullman
045	Dale
047	Dallas
049	De Kalb
051	Elmore
053	Escambia
055	Etowah
057	Fayette
059	Franklin
061	Geneva
063	Greene
065	Hale
067	Henry
069	Houston
071	Jackson
073	Jefferson
075	Lamar
077	Lauderdale
079	Lawrence
081	Lee
083	Limestone
085	Lowndes
087	Macon
089	Madison
091	Marengo
093	Marion
095	Marshall
097	Mobile
099	Monroe
101	Montgomery
103	Morgan
105	Perry
107	Pickens
109	Pike
111	Randolph
113	Russell
115	St. Clair
117	Shelby
119	Sumter
121	Talladega
123	Tallapoosa
AL–Con.	
125	Tuscaloosa
127	Walker
129	Washington
131	Wilcox
133	Winston
AR	**Arkansas**
	County
001	Arkansas
003	Ashley
005	Baxter
007	Benton
009	Boone
011	Bradley
013	Calhoun
015	Carroll
017	Chicot
019	Clark
021	Clay
023	Cleburne
025	Cleveland
027	Columbia
029	Conway
031	Craighead
033	Crawford
035	Crittenden
037	Cross
039	Dallas
041	Desha
043	Drew
045	Faulkner
047	Franklin
049	Fulton
051	Garland
053	Grant
055	Greene
057	Hempstead
059	Hot Spring
061	Howard
063	Independence
065	Izard
067	Jackson
069	Jefferson
071	Johnson
073	Lafayette
075	Lawrence
077	Lee
079	Lincoln
081	Little River
083	Logan
085	Lonoke
087	Madison
089	Marion
091	Miller
093	Mississippi
095	Monroe
097	Montgomery
099	Nevada
101	Newton
103	Ouachita
105	Perry
107	Phillips
109	Pike
111	Poinsett
113	Polk
AR–Con.	
115	Pope
117	Prairie
119	Pulaski
121	Randolph
123	St. Francis
125	Saline
127	Scott
129	Searcy
131	Sebastian
133	Sevier
135	Sharp
137	Stone
139	Union
141	Van Buren
143	Washington
145	White
147	Woodruff
149	Yell
AZ	**Arizona**
	County
001	Apache
003	Cochise
005	Coconino
007	Gila
009	Graham
011	Greenlee
013	Maricopa
015	Mohave
017	Navajo
019	Pima
021	Pinal
023	Santa Cruz
025	Yavapai
027	Yuma
CA	**California**
	County
001	Alameda
003	Alpine
005	Amador
007	Butte
009	Calaveras
011	Colusa
013	Contra Costa
015	Del Norte
017	El Dorado
019	Fresno
021	Glenn
023	Humboldt
025	Imperial
027	Inyo
029	Kern
031	Kings
033	Lake
035	Lassen
037	Los Angeles
039	Madera
041	Marin
043	Mariposa
045	Mendocino
047	Merced
049	Modoc
051	Mono
053	Monterey
CA–Con.	
055	Napa
057	Nevada
059	Orange
061	Placer
063	Plumas
065	Riverside
067	Sacramento
069	San Benito
071	San Bernardino
073	San Diego
075	San Francisco
077	San Joaquin
079	San Luis Obispo
081	San Mateo
083	Santa Barbara
085	Santa Clara
087	Santa Cruz
089	Shasta
091	Sierra
093	Siskiyou
095	Solano
097	Sonoma
099	Stanislaus
101	Sutter
103	Tehama
105	Trinty
107	Tulare
109	Tuolumne
111	Ventura
113	Yolo
115	Yuba
CO	**Colorado**
	County
001	Adams
003	Alamosa
005	Arapahoe
007	Archuleta
009	Baca
011	Bent
013	Boulder
015	Chaffee
017	Cheyenne
019	Clear Creek
021	Conejos
023	Costilla
025	Crowley
027	Custer
029	Delta
031	Denver
033	Dolores
035	Douglas
037	Eagle
039	Elbert
041	El Paso
043	Fremont
045	Garfield
047	Gilpin
049	Grand
051	Gunnison
053	Hinsdale
055	Huerfano
057	Jackson
059	Jefferson
061	Kiowa
CO–Con.	
063	Kit Carson
065	Lake
067	La Plata
069	Larimer
071	Las Animas
073	Lincoln
075	Logan
077	Mesa
079	Mineral
081	Moffat
083	Montezuma
085	Montrose
087	Morgan
089	Otero
091	Ouray
093	Park
095	Phillips
097	Pitkin
099	Prowers
101	Pueblo
103	Rio Blanco
105	Rio Grande
107	Routt
109	Saguache
111	San Juan
113	San Miguel
115	Sedgwick
117	Summit
119	Teller
121	Washington
123	Weld
125	Yuma
CT	**Connecticut**
	County
001	Fairfield
003	Hartford
005	Litchfield
007	Middlesex
009	New Haven
011	New London
013	Tolland
015	Windham
DC	**District of Columbia**
001	Washington
DE	**Delaware**
	County
001	Kent
003	New Castle
005	Sussex
FL	**Florida**
	County
001	Alachua
003	Baker
005	Bay
007	Bradford
009	Brevard
011	Broward
013	Calhoun
015	Charlotte
017	Citrus
019	Clay
FL–Con.	
021	Collier
023	Columbia
025	Dade
027	De Soto
029	Dixie
031	Duval
033	Escambia
035	Flagler
037	Franklin
039	Gadsden
041	Gilchrist
043	Glades
045	Gulf
047	Hamilton
049	Hardee
051	Hendry
053	Hernando
055	Highlands
057	Hillsborough
059	Holmes
061	Indian River
063	Jackson
065	Jefferson
067	Lafayette
069	Lake
071	Lee
073	Leon
075	Levy
077	Liberty
079	Madison
081	Manatee
083	Marion
085	Martin
087	Monroe
089	Nassau
091	Okaloosa
093	Okeechobee
095	Orange
097	Osceola
099	Palm Beach
101	Pasco
103	Pinellas
105	Polk
107	Putnam
109	St. Johns
111	St. Lucie
113	Santa Rosa
115	Sarasota
117	Seminole
119	Sumter
121	Suwannee
123	Taylor
125	Union
127	Volusia
129	Wakulla
131	Walton
133	Washington
GA	**Georgia**
	County
001	Appling
003	Atkinson
005	Bacon
007	Baker
009	Baldwin

Table 2 – Symbols used for States (and other areas) and code numbers used for counties and independent cities – Cont.

STATES, COUNTIES, AND INDEPENDENT CITIES–Continued

GA–Con.	
011	Banks
013	Barrow
015	Bartow
017	Ben Hill
019	Berrien
021	Bibb
023	Bleckley
025	Brantley
027	Brooks
029	Bryan
031	Bulloch
033	Burke
035	Butts
037	Calhoun
039	Camden
043	Candler
045	Carroll
047	Catoosa
049	Charlton
051	Chatham
053	Chattahoochee
055	Chattooga
057	Cherokee
059	Clarke
061	Clay
063	Clayton
065	Clinch
067	Cobb
069	Coffee
071	Colquitt
073	Columbia
075	Cook
077	Coweta
079	Crawford
081	Crisp
083	Dade
085	Dawson
087	Decatur
089	De Kalb
091	Dodge
093	Dooly
095	Dougherty
097	Douglas
099	Early
101	Echols
103	Effingham
105	Elbert
107	Emanuel
109	Evans
111	Fannin
113	Fayette
115	Floyd
117	Forsyth
119	Franklin
121	Fulton
123	Gilmer
125	Glascock
127	Glynn
129	Gordon
131	Grady
133	Greene
135	Gwinnett
137	Habersham
139	Hall
141	Hancock
143	Haralson
145	Harris
147	Hart
149	Heard
151	Henry
153	Houston
155	Irwin
157	Jackson
159	Jasper
161	Jeff Davis
163	Jefferson
165	Jenkins
167	Johnson
169	Jones
171	Lamar
173	Lanier
175	Laurens
177	Lee
179	Liberty
181	Lincoln
183	Long
185	Lowndes
187	Lumpkin
189	McDuffie
191	McIntosh
GA–Con.	
193	Macon
195	Madison
197	Marion
199	Meriwether
201	Miller
205	Mitchell
207	Monroe
209	Montgomery
211	Morgan
213	Murray
215	Muscogee
217	Newton
219	Oconee
221	Oglethorpe
223	Paulding
225	Peach
227	Pickens
229	Pierce
231	Pike
233	Polk
235	Pulaski
237	Putnam
239	Quitman
241	Rabun
243	Randolph
245	Richmond
247	Rockdale
249	Schley
251	Screven
253	Seminole
255	Spalding
257	Stephens
259	Stewart
261	Sumter
263	Talbot
265	Taliaferro
267	Tattnall
269	Taylor
271	Telfair
273	Terrell
275	Thomas
277	Tift
279	Toombs
281	Towns
283	Treutlen
285	Troup
287	Turner
289	Twiggs
291	Union
293	Upson
295	Walker
297	Walton
299	Ware
301	Warren
303	Washington
305	Wayne
307	Webster
309	Wheeler
311	White
313	Whitfield
315	Wilcox
317	Wilkes
319	Wilkinson
321	Worth
HI	Hawaii
	County
001	Hawaii
003	Honolulu
005	Kalawao
007	Kauai
009	Maui
IA	Iowa
	County
001	Adair
003	Adams
005	Allamakee
007	Appanoose
009	Audubon
011	Benton
013	Black Hawk
015	Boone
017	Bremer
019	Buchanan
021	Buena Vista
023	Butler
025	Calhoun
027	Carroll
029	Cass
IA–Con.	
031	Cedar
033	Cerro Gordo
035	Cherokee
037	Chickasaw
039	Clarke
041	Clay
043	Clayton
045	Clinton
047	Crawford
049	Dallas
051	Davis
053	Decatur
055	Delaware
057	Des Moines
059	Dickinson
061	Dubuque
063	Emmet
065	Fayette
067	Floyd
069	Franklin
071	Fremont
073	Greene
075	Grundy
077	Guthrie
079	Hamilton
081	Hancock
083	Hardin
085	Harrison
087	Henry
089	Howard
091	Humboldt
093	Ida
095	Iowa
097	Jackson
099	Jasper
101	Jefferson
103	Johnson
105	Jones
107	Keokuk
109	Kossuth
111	Lee
113	Linn
115	Louisa
117	Lucas
119	Lyon
121	Madison
123	Mahaska
125	Marion
127	Marshall
129	Mills
131	Mitchell
133	Monona
135	Monroe
137	Montgomery
139	Muscatine
141	O'Brien
143	Osceola
145	Page
147	Palo Alto
149	Plymouth
151	Pocahontas
153	Polk
155	Pottawattamie
157	Poweshiek
159	Ringgold
161	Sac
163	Scott
165	Shelby
167	Sioux
169	Story
171	Tama
173	Taylor
175	Union
177	Van Buren
179	Wapello
181	Warren
183	Washington
185	Wayne
187	Webster
189	Winnebago
191	Winneshiek
193	Woodbury
195	Worth
197	Wright
ID	Idaho
	County
001	Ada
003	Adams
005	Bannock
ID–Con.	
007	Bear Lake
009	Benewah
011	Bingham
013	Blaine
015	Boise
017	Bonner
019	Bonneville
021	Boundary
023	Butte
025	Camas
027	Canyon
029	Caribou
031	Cassia
033	Clark
035	Clearwater
037	Custer
039	Elmore
041	Franklin
043	Fremont
045	Gem
047	Gooding
049	Idaho
051	Jefferson
053	Jerome
055	Kootenai
057	Latah
059	Lemhi
061	Lewis
063	Lincoln
065	Madison
067	Minidoka
069	Nez Perce
071	Oneida
073	Owyhee
075	Payette
077	Power
079	Shoshone
081	Teton
083	Twin Falls
085	Valley
087	Washington
IL	Illinois
	County
001	Adams
003	Alexander
005	Bond
007	Boone
009	Brown
011	Bureau
013	Calhoun
015	Carroll
017	Cass
019	Champaign
021	Christian
023	Clark
025	Clay
027	Clinton
029	Coles
031	Cook
033	Crawford
035	Cumberland
037	De Kalb
039	De Witt
041	Douglas
043	Du Page
045	Edgar
047	Edwards
049	Effingham
051	Fayette
053	Ford
055	Franklin
057	Fulton
059	Gallatin
061	Greene
063	Grundy
065	Hamilton
067	Hancock
069	Hardin
071	Henderson
073	Henry
075	Iroquois
077	Jackson
079	Jasper
081	Jefferson
083	Jersey
085	Jo Daviess
087	Johnson
089	Kane
091	Kankakee
IL–Con.	
093	Kendall
095	Knox
097	Lake
099	La Salle
101	Lawrence
103	Lee
105	Livingston
107	Logan
109	McDonough
111	McHenry
113	McLean
115	Macon
117	Macoupin
119	Madison
121	Marion
123	Marshall
125	Mason
127	Massac
129	Menard
131	Mercer
133	Monroe
135	Montgomery
137	Morgan
139	Moultrie
141	Ogle
143	Peoria
145	Perry
147	Piatt
149	Pike
151	Pope
153	Pulaski
155	Putnam
157	Randolph
159	Richland
161	Rock Island
163	St. Clair
165	Saline
167	Sangamon
169	Schuyler
171	Scott
173	Shelby
175	Stark
177	Stephenson
179	Tazewell
181	Union
183	Vermilion
185	Wabash
187	Warren
189	Washington
191	Wayne
193	White
195	Whiteside
197	Will
199	Williamson
201	Winnebago
203	Woodford
IN	Indiana
	County
001	Adams
003	Allen
005	Bartholomew
007	Benton
009	Blackford
011	Boone
013	Brown
015	Carroll
017	Cass
019	Clark
021	Clay
023	Clinton
025	Crawford
027	Daviess
029	Dearborn
031	Decatur
033	De Kalb
035	Delaware
037	Dubois
039	Elkhart
041	Fayette
043	Floyd
045	Fountain
047	Franklin
049	Fulton
051	Gibson
053	Grant
055	Greene
057	Hamilton
059	Hancock
061	Harrison
IN–Con.	
063	Hendricks
065	Henry
067	Howard
069	Huntington
071	Jackson
073	Jasper
075	Jay
077	Jefferson
079	Jennings
081	Johnson
083	Knox
085	Kosciusko
087	Lagrange
089	Lake
091	La Porte
093	Lawrence
095	Madison
097	Marion
099	Marshall
101	Martin
103	Miami
105	Monroe
107	Montgomery
109	Morgan
111	Newton
113	Noble
115	Ohio
117	Orange
119	Owen
121	Parke
123	Perry
125	Pike
127	Porter
129	Posey
131	Pulaski
133	Putnam
135	Randolph
137	Ripley
139	Rush
141	St. Joseph
143	Scott
145	Shelby
147	Spencer
149	Starke
151	Steuben
153	Sullivan
155	Switzerland
157	Tippecanoe
159	Tipton
161	Union
163	Vanderburgh
165	Vermillion
167	Vigo
169	Wabash
171	Warren
173	Warrick
175	Washington
177	Wayne
179	Wells
181	White
183	Whitley
KS	Kansas
	County
001	Allen
003	Anderson
005	Atchison
007	Barber
009	Barton
011	Bourbon
013	Brown
015	Butler
017	Chase
019	Chautauqua
021	Cherokee
023	Cheyenne
025	Clark
027	Clay
029	Cloud
031	Coffey
033	Comanche
035	Cowley
037	Crawford
039	Decatur
041	Dickinson
043	Doniphan
045	Douglas
047	Edwards
049	Elk
051	Ellis

Table 2—Symbols used for States (and other areas) and code numbers used for counties and independent cities – Cont

STATES, COUNTIES, AND INDEPENDENT CITIES—Continued

KS–Con.	
053	Ellsworth
055	Finney
057	Ford
059	Franklin
061	Geary
063	Gove
065	Graham
067	Grant
069	Gray
071	Greeley
073	Greenwood
075	Hamilton
077	Harper
079	Harvey
081	Haskell
083	Hodgeman
085	Jackson
087	Jefferson
089	Jewell
091	Johnson
093	Kearny
095	Kingman
097	Kiowa
099	Labette
101	Lane
103	Leavenworth
105	Lincoln
107	Linn
109	Logan
111	Lyon
113	McPherson
115	Marion
117	Marshall
119	Meade
121	Miami
123	Mitchell
125	Montgomery
127	Morris
129	Morton
131	Nemaha
133	Neosho
135	Ness
137	Norton
139	Osage
141	Osborne
143	Ottawa
145	Pawnee
147	Phillips
149	Pottawatomie
151	Pratt
153	Rawlins
155	Reno
157	Republic
159	Rice
161	Riley
163	Rooks
165	Rush
167	Russell
169	Saline
171	Scott
173	Sedgwick
175	Seward
177	Shawnee
179	Sheridan
181	Sherman
183	Smith
185	Stafford
187	Stanton
189	Stevens
191	Sumner
193	Thomas
195	Trego
197	Wabaunsee
199	Wallace
201	Washington
203	Wichita
205	Wilson
207	Woodson
209	Wyandotte
KY	**Kentucky**
	County
001	Adair
003	Allen
005	Anderson
007	Ballard
009	Barren
011	Bath
013	Bell
015	Boone
017	Bourbon
019	Boyd
KY–Con.	
021	Boyle
023	Bracken
025	Breathitt
027	Breckinridge
029	Bullitt
031	Butler
033	Caldwell
035	Calloway
037	Campbell
039	Carlisle
041	Carroll
043	Carter
045	Casey
047	Christian
049	Clark
051	Clay
053	Clinton
055	Crittenden
057	Cumberland
059	Daviess
061	Edmonson
063	Elliott
065	Estill
067	Fayette
069	Fleming
071	Floyd
073	Franklin
075	Fulton
077	Gallatin
079	Garrard
081	Grant
083	Graves
085	Grayson
087	Green
089	Greenup
091	Hancock
093	Hardin
095	Harlan
097	Harrison
099	Hart
101	Henderson
103	Henry
105	Hickman
107	Hopkins
109	Jackson
111	Jefferson
113	Jessamine
115	Johnson
117	Kenton
119	Knott
121	Knox
123	Larue
125	Laurel
127	Lawrence
129	Lee
131	Leslie
133	Letcher
135	Lewis
137	Lincoln
139	Livingston
141	Logan
143	Lyon
145	McCracken
147	McCreary
149	McLean
151	Madison
153	Magoffin
155	Marion
157	Marshall
159	Martin
161	Mason
163	Meade
165	Menifee
167	Mercer
169	Metcalfe
171	Monroe
173	Montgomery
175	Morgan
177	Muhlenberg
179	Nelson
181	Nicholas
183	Ohio
185	Oldham
187	Owen
189	Owsley
191	Pendleton
193	Perry
195	Pike
197	Powell
199	Pulaski
201	Robertson
203	Rockcastle
KY–Con.	
205	Rowan
207	Russell
209	Scott
211	Shelby
213	Simpson
215	Spencer
217	Taylor
219	Todd
221	Trigg
223	Trimble
225	Union
227	Warren
229	Washington
231	Wayne
233	Webster
235	Whitley
237	Wolfe
239	Woodford
LA	**Louisiana**
	County
001	Acadia
003	Allen
005	Ascension
007	Assumption
009	Avoyelles
011	Beauregard
013	Bienville
015	Bossier
017	Caddo
019	Calcasieu
021	Caldwell
023	Cameron
025	Catahoula
027	Claibourne
029	Concordia
031	De Soto
033	East Baton Rouge
035	East Carroll
037	East Feliciana
039	Evangeline
041	Franklin
043	Grant
045	Iberia
047	Iberville
049	Jackson
051	Jefferson
053	Jefferson Davis
055	Lafayette
057	Lafourche
059	La Salle
061	Lincoln
063	Livingston
065	Madison
067	Morehouse
069	Natchitoches
071	Orleans
073	Ouachita
075	Plaquemines
077	Pointe Coupee
079	Rapides
081	Red River
083	Richland
085	Sabine
087	St. Bernard
089	St. Charles
091	St. Helena
093	St. James
095	St. John The Baptist
097	St. Landry
099	St. Martin
101	St. Mary
103	St. Tammany
105	Tangipahoa
107	Tensas
109	Terrebonne
111	Union
113	Vermilion
115	Vernon
117	Washington
119	Webster
121	West Baton Rouge
123	West Carroll
125	West Feliciana
127	Winn
MA	**Massachusetts**
	County
001	Barnstable
003	Berkshire
005	Bristol
007	Dukes
MA–Con.	
009	Essex
011	Franklin
013	Hampden
015	Hampshire
017	Middlesex
019	Nantucket
021	Norfolk
023	Plymouth
025	Suffolk
027	Worcester
MD	**Maryland**
	County
001	Allegany
003	Anne Arundel
005	Baltimore
009	Calvert
011	Caroline
013	Carroll
015	Cecil
017	Charles
019	Dorchester
021	Frederick
023	Garrett
015	Harford
027	Howard
029	Kent
031	Montgomery
033	Prince Georges
035	Queen Annes
037	St. Marys
039	Somerset
041	Talbot
043	Washington
045	Wicomico
047	Worcester
	Independent City
510	Baltimore City
ME	**Maine**
	County
001	Androscoggin
003	Aroostook
005	Cumberland
007	Franklin
009	Hancock
011	Kennebec
013	Knox
015	Lincoln
017	Oxford
019	Penobscot
021	Piscataquis
023	Sagadahoc
025	Somerset
027	Waldo
029	Washington
031	York
MI	**Michigan**
	County
001	Alcona
003	Alger
005	Allegan
007	Alpena
009	Antrim
011	Arenac
013	Baraga
015	Barry
017	Bay
019	Benzie
021	Berrien
023	Branch
025	Calhoun
027	Cass
029	Charlevoix
031	Cheboygan
033	Chippewa
035	Clare
037	Clinton
039	Crawford
041	Delta
043	Dickinson
045	Eaton
047	Emmet
049	Genesee
051	Gladwin
053	Gogebic
055	Grand Traverse
057	Gratiot
059	Hillsdale
061	Houghton
063	Huron
MI–Con.	
065	Ingham
067	Ionia
069	Iosco
071	Iron
073	Isabella
075	Jackson
077	Kalamazoo
079	Kalkaska
081	Kent
083	Keweenaw
085	Lake
087	Lapeer
089	Leelanau
091	Lenawee
093	Livingston
095	Luce
097	Mackinac
099	Macomb
101	Manistee
103	Marquette
105	Mason
107	Mecosta
109	Menominee
111	Midland
113	Missaukee
115	Monroe
117	Montcalm
119	Montmorency
121	Muskegon
123	Newaygo
125	Oakland
127	Oceana
129	Ogemaw
131	Ontonagon
133	Osceola
135	Oscoda
137	Otsego
139	Ottawa
141	Presque Isle
143	Roscommon
145	Saginaw
147	St. Clair
149	St. Joseph
151	Sanilac
153	Schoolcraft
155	Shiawassee
157	Tuscola
159	Van Buren
161	Washtenaw
163	Wayne
165	Wexford
MN	**Minnesota**
	County
001	Aitkin
003	Anoka
005	Becker
007	Beltrami
009	Benton
011	Big Stone
013	Blue Earth
015	Brown
017	Carlton
019	Carver
021	Cass
023	Chippewa
025	Chisago
027	Clay
029	Clearwater
031	Cook
033	Cottonwood
035	Crow Wing
037	Dakota
039	Dodge
041	Douglas
043	Faribault
045	Fillmore
047	Freeborn
049	Goodhue
051	Grant
053	Hennepin
055	Houston
057	Hubbard
059	Isanti
061	Itasca
063	Jackson
065	Kanabec
067	Kandiyohi
069	Kittson
071	Koochiching
073	Lac Qui Parle
075	Lake
MN–Con.	
077	Lake of the Woods
079	Le Sueur
081	Lincoln
083	Lyon
085	McLeod
087	Mahnomen
089	Marshall
091	Martin
093	Meeker
095	Mille Lacs
097	Morrison
099	Mower
101	Murray
103	Nicollet
105	Nobles
107	Norman
109	Olmsted
111	Otter Tail
113	Pennington
115	Pine
117	Pipestone
119	Polk
121	Pope
123	Ramsey
125	Red Lake
127	Redwood
129	Renville
131	Rice
133	Rock
135	Roseau
137	St. Louis
139	Scott
141	Sherburne
143	Sibley
145	Stearns
147	Steele
149	Stevens
151	Swift
153	Todd
155	Traverse
157	Wabasha
159	Wadena
161	Waseca
163	Washington
165	Watonwan
167	Wilkin
169	Winona
171	Wright
173	Yellow Medicine
MO	**Missouri**
	County
001	Adair
003	Andrew
005	Atchison
007	Audrain
009	Barry
011	Barton
013	Bates
015	Benton
017	Bollinger
019	Boone
021	Buchanan
023	Butler
025	Caldwell
027	Callaway
029	Camden
031	Cape Girardeau
033	Carroll
035	Carter
037	Cass
039	Cedar
041	Chariton
043	Christian
045	Clark
047	Clay
049	Clinton
051	Cole
053	Cooper
055	Crawford
057	Dade
059	Dallas
061	Daviess
063	De Kalb
065	Dent
067	Douglas
069	Dunklin
071	Franklin
073	Gasconade
075	Gentry
077	Greene
079	Grundy

Table 2–Symbols used for States (and other areas) and code numbers used for counties and independent cities – Cont.

STATES, COUNTIES, AND INDEPENDENT CITIES–Continued

MO–Con.	
081	Harrison
083	Henry
085	Hickory
087	Holt
089	Howard
091	Howell
093	Iron
095	Jackson
097	Jasper
099	Jefferson
101	Johnson
103	Knox
105	Laclede
107	Lafayette
109	Lawrence
111	Lewis
113	Lincoln
115	Linn
117	Livingston
119	McDonald
121	Macon
123	Madison
125	Maries
127	Marion
129	Mercer
131	Miller
133	Mississippi
135	Moniteau
137	Monroe
139	Montgomery
141	Morgan
143	New Madrid
145	Newton
147	Nodaway
149	Oregon
151	Osage
153	Ozark
155	Pemiscot
157	Perry
159	Pettis
161	Phelps
163	Pike
165	Platte
167	Polk
169	Pulaski
171	Putnam
173	Ralls
175	Randolph
177	Ray
179	Reynolds
181	Ripley
183	St. Charles
185	St. Clair
187	St. Francois
189	St. Louis
193	Ste Genevieve
195	Saline
197	Schuyler
199	Scotland
201	Scott
203	Shannon
205	Shelby
207	Stoddard
209	Stone
211	Sullivan
213	Taney
215	Texas
217	Vernon
219	Warren
221	Washington
223	Wayne
225	Webster
227	Worth
229	Wright
	Independent City
510	St. Louis City
MS	**Mississippi**
	County
001	Adams
003	Alcorn
005	Amite
007	Attala
009	Benton
011	Bolivar
013	Calhoun
015	Carroll
017	Chickasaw
019	Choctaw
021	Claiborne
023	Clarke
025	Clay
MS–Con.	
027	Coahoma
029	Copiah
031	Covington
033	De Soto
035	Forrest
037	Franklin
039	George
041	Greene
043	Grenada
045	Hancock
047	Harrison
049	Hinds
051	Holmes
053	Humphreys
055	Issaquena
057	Itawamba
059	Jackson
061	Jasper
063	Jefferson
065	Jefferson Davis
067	Jones
069	Kemper
071	Lafayette
073	Lamar
075	Lauderdale
077	Lawrence
079	Leake
081	Lee
083	Leflore
085	Lincoln
087	Lowndes
089	Madison
091	Marion
093	Marshall
095	Monroe
097	Montgomery
099	Neshoba
101	Newton
103	Noxubee
105	Oktibbeha
107	Panola
109	Pearl River
111	Perry
113	Pike
115	Pontotoc
117	Prentiss
119	Quitman
121	Rankin
123	Scott
125	Sharkey
127	Simpson
129	Smith
131	Stone
133	Sunflower
135	Tallahatchie
137	Tate
139	Tippah
141	Tishomingo
143	Tunica
145	Union
147	Walthall
149	Warren
151	Washington
153	Wayne
155	Webster
157	Wilkinson
159	Winston
161	Yalobusha
163	Yazoo
MT	**Montana**
	County
001	Beaverhead
003	Big Horn
005	Blaine
007	Broadwater
009	Carbon
011	Carter
013	Cascade
015	Chouteau
017	Custer
019	Daniels
021	Dawson
023	Deer Lodge
025	Fallon
027	Fergus
029	Flathead
031	Gallatin
033	Garfield
035	Glacier
037	Golden Valley
039	Granite
MT–Con.	
041	Hill
043	Jefferson
045	Judith Basin
047	Lake
049	Lewis and Clark
051	Liberty
053	Lincoln
055	McCone
057	Madison
059	Meagher
061	Mineral
063	Missoula
065	Musselshell
067	Park
069	Petroleum
071	Phillips
073	Pondera
075	Powder River
077	Powell
079	Prairie
081	Ravalli
083	Richland
085	Roosevelt
087	Rosebud
089	Sanders
091	Sheridan
093	Silver Bow
095	Stillwater
097	Sweet Grass
099	Teton
101	Toole
103	Treasure
105	Valley
107	Wheatland
109	Wibaux
111	Yellowstone
113	Yellowstone Natl Park–Part
NB	**Nebraska**
	County
001	Adams
003	Antelope
005	Arthur
007	Banner
009	Blaine
011	Boone
013	Box Butte
015	Boyd
017	Brown
019	Buffalo
021	Burt
023	Butler
025	Cass
027	Cedar
029	Chase
031	Cherry
033	Cheyenne
035	Clay
037	Colfax
039	Cuming
041	Custer
043	Dakota
045	Dawes
047	Dawson
049	Deuel
051	Dixon
053	Dodge
055	Douglas
057	Dundy
059	Fillmore
061	Franklin
063	Frontier
065	Furnas
067	Gage
069	Garden
071	Garfield
073	Gosper
075	Grant
077	Greeley
079	Hall
081	Hamilton
083	Harlan
085	Hayes
087	Hitchcock
089	Holt
091	Hooker
093	Howard
095	Jefferson
097	Johnson
099	Kearney
101	Keith
NB–Con.	
103	Keya Paha
105	Kimball
107	Knox
109	Lancaster
111	Lincoln
113	Logan
115	Loup
117	McPherson
119	Madison
121	Merrick
123	Morrill
125	Nance
127	Nemaha
129	Nuckolls
131	Otoe
133	Pawnee
135	Perkins
137	Phelps
139	Pierce
141	Platte
143	Polk
145	Red Willow
147	Richardson
149	Rock
151	Saline
153	Sarpy
155	Saunders
157	Scotts Bluff
159	Seward
161	Sheridan
163	Sherman
165	Sioux
167	Stanton
169	Thayer
171	Thomas
173	Thurston
175	Valley
177	Washington
179	Wayne
181	Webster
183	Wheeler
185	York
NC	**North Carolina**
	County
001	Alamance
003	Alexander
005	Alleghany
007	Anson
009	Ashe
011	Avery
013	Beaufort
015	Bertie
017	Bladen
019	Brunswick
021	Buncombe
023	Burke
025	Cabarrus
027	Caldwell
029	Camden
031	Carteret
033	Caswell
035	Catawba
037	Chatham
039	Cherokee
041	Chowan
043	Clay
045	Cleveland
047	Columbus
049	Craven
051	Cumberland
053	Currituck
055	Dare
057	Davidson
059	Davie
061	Duplin
063	Durham
065	Edgecombe
067	Forsyth
069	Franklin
071	Gaston
073	Gates
075	Graham
077	Granville
079	Greene
081	Guilford
083	Halifax
085	Harnett
087	Haywood
089	Henderson
091	Hertford
093	Hoke
NC–Con.	
095	Hyde
097	Iredell
099	Jackson
101	Johnston
103	Jones
105	Lee
107	Lenoir
109	Lincoln
111	McDowell
113	Macon
115	Madison
117	Martin
119	Mecklenburg
121	Mitchell
123	Montgomery
125	Moore
127	Nash
129	New Hanover
131	Northampton
133	Onslow
135	Orange
137	Pamlico
139	Pasquotank
141	Pender
143	Perquimans
145	Person
147	Pitt
149	Polk
151	Randolph
153	Richmond
155	Robeson
157	Rockingham
159	Rowan
161	Rutherford
163	Sampson
165	Scotland
167	Stanly
169	Stokes
171	Surry
173	Swain
175	Transylvania
177	Tyrrell
179	Union
181	Vance
183	Wake
185	Warren
187	Washington
189	Watauga
191	Wayne
193	Wilkes
195	Wilson
197	Yadkin
199	Yancey
ND	**North Dakota**
	County
001	Adams
003	Barnes
005	Benson
007	Billings
009	Bottineau
011	Bowman
013	Burke
015	Burleigh
017	Cass
019	Cavalier
021	Dickey
023	Divide
025	Dunn
027	Eddy
029	Emmons
033	Golden Valley
035	Grand Forks
037	Grant
039	Griggs
041	Hettinger
043	Kidder
045	La Moure
047	Logan
049	McHenry
051	McIntosh
053	McKenzie
055	McLean
057	Mercer
059	Morton
061	Mountrail
063	Nelson
065	Oliver
067	Pembina
069	Pierce
071	Ramsey
073	Ransom
ND–Con.	
075	Renville
077	Richland
079	Rolette
081	Sargent
083	Sheridan
085	Sioux
087	Slope
089	Stark
091	Steele
093	Stutsman
095	Towner
097	Traill
099	Walsh
101	Ward
103	Wells
105	Williams
NH	**New Hampshire**
	County
001	Belknap
003	Carroll
005	Cheshire
007	Coos
009	Grafton
011	Hillsboro
013	Merrimack
015	Rockingham
017	Strafford
019	Sullivan
NJ	**New Jersey**
	County
001	Atlantic
003	Bergen
005	Burlington
007	Camden
009	Cape May
011	Cumberland
013	Essex
015	Gloucester
017	Hudson
019	Hunterdon
021	Mercer
023	Middlesex
025	Monmouth
027	Morris
029	Ocean
031	Passaic
033	Salem
035	Somerset
037	Sussex
039	Union
041	Warren
NM	**New Mexico**
	County
001	Bernalillo
003	Catron
005	Chaves
007	Colfax
009	Curry
011	De Baca
013	Dona Ana
015	Eddy
017	Grant
019	Guadalupe
021	Harding
023	Hidalgo
025	Lea
027	Lincoln
028	Los Alamos
029	Luna
031	McKinley
033	Mora
035	Otero
037	Quay
039	Rio Arriba
041	Roosevelt
043	Sandoval
045	San Juan
047	San Miguel
049	Santa Fe
051	Sierra
053	Socorro
055	Taos
057	Torrance
059	Union
061	Valencia
NV	**Nevada**
	County
001	Churchill

Table 2 – Symbols used for States (and other areas) and code numbers used for counties and independent cities – Cont.

STATES, COUNTIES, AND INDEPENDENT CITIES–Continued

NV–Con.	
003	Clark
005	Douglas
007	Elko
009	Esmeralda
011	Eureka
013	Humboldt
015	Lander
017	Lincoln
019	Lyon
021	Mineral
023	Nye
027	Pershing
029	Storey
031	Washoe
033	White Pine
	Independent City
510	Carson City
NY	**New York**
	County
001	Albany
003	Allegany
005	Bronx
007	Broome
009	Cattaraugus
011	Cayuga
013	Chautauqua
015	Chemung
017	Chenango
019	Clinton
021	Columbia
023	Cortland
025	Delaware
027	Dutchess
029	Erie
031	Essex
033	Franklin
035	Fulton
037	Genesee
039	Greene
041	Hamilton
043	Herkimer
045	Jefferson
047	Kings
049	Lewis
051	Livingston
053	Madison
055	Monroe
057	Montgomery
059	Nassau
061	New York
063	Niagara
065	Oneida
067	Onondaga
069	Ontario
071	Orange
073	Orleans
075	Oswego
077	Otsego
079	Putnam
081	Queens
083	Rensselaer
085	Richmond
087	Rockland
089	St. Lawrence
091	Saratoga
093	Schenectady
095	Schoharie
097	Schuyler
099	Seneca
101	Steuben
103	Suffolk
105	Sullivan
107	Tioga
109	Tompkins
111	Ulster
113	Warren
115	Washington
117	Wayne
119	Westchester
121	Wyoming
123	Yates
OH	**Ohio**
	County
001	Adams
003	Allen
005	Ashland
007	Ashtabula
009	Athens
011	Auglaize
013	Belmont
OH–Con.	
015	Brown
017	Butler
019	Carroll
021	Champaign
023	Clark
025	Clermont
027	Clinton
029	Columbiana
031	Coshocton
033	Crawford
035	Cuyahoga
037	Darke
039	Defiance
041	Delaware
043	Erie
045	Fairfield
047	Fayette
049	Franklin
051	Fulton
053	Gallia
055	Geauga
057	Greene
059	Guernsey
061	Hamilton
063	Hancock
065	Hardin
067	Harrison
069	Henry
071	Highland
073	Hocking
075	Holmes
077	Huron
079	Jackson
081	Jefferson
083	Knox
085	Lake
087	Lawrence
089	Licking
091	Logan
093	Lorain
095	Lucas
097	Madison
099	Mahoning
101	Marion
103	Medina
105	Meigs
107	Mercer
109	Miami
111	Monroe
113	Montgomery
115	Morgan
117	Morrow
119	Muskingum
121	Noble
123	Ottawa
125	Paulding
127	Perry
129	Pickaway
131	Pike
133	Portage
135	Preble
137	Putnam
139	Richland
141	Ross
143	Sandusky
145	Scioto
147	Seneca
149	Shelby
151	Stark
153	Summit
155	Trumbull
157	Tuscarawas
159	Union
161	Van Wert
163	Vinton
165	Warren
167	Washington
169	Wayne
171	Williams
173	Wood
175	Wyandot
OK	**Oklahoma**
	County
001	Adair
003	Alfalfa
005	Atoka
007	Beaver
009	Beckham
011	Blaine
013	Bryan
015	Caddo
OK–Con.	
017	Canadian
019	Carter
021	Cherokee
023	Choctaw
025	Cimarron
027	Cleveland
029	Coal
031	Comanche
033	Cotton
035	Craig
037	Creek
039	Custer
041	Delaware
043	Dewey
045	Ellis
047	Garfield
049	Garvin
051	Grady
053	Grant
055	Greer
057	Harmon
059	Harper
061	Haskell
063	Hughes
065	Jackson
067	Jefferson
069	Johnston
071	Kay
073	Kingfisher
075	Kiowa
077	Latimer
079	Le Flore
081	Lincoln
083	Logan
085	Love
087	McClain
089	McCurtain
091	McIntosh
093	Major
095	Marshall
097	Mayes
099	Murray
101	Muskogee
103	Noble
105	Nowata
107	Okfuskee
109	Oklahoma
111	Okmulgee
113	Osage
115	Ottawa
117	Pawnee
119	Payne
121	Pittsburg
123	Pontotoc
125	Pottawatomie
127	Pushmataha
129	Roger Mills
131	Rogers
133	Seminole
135	Sequoyah
137	Stephens
139	Texas
141	Tillman
143	Tulsa
145	Wagoner
147	Washington
149	Washita
151	Woods
153	Woodward
OR	**Oregon**
	County
001	Baker
003	Benton
005	Clackamas
007	Clatsop
009	Columbia
011	Coos
013	Crook
015	Curry
017	Deschutes
019	Douglas
021	Gilliam
023	Grant
025	Harney
027	Hood River
029	Jackson
031	Jefferson
033	Josephine
035	Klamath
037	Lake
039	Lane
OR–Con.	
041	Lincoln
043	Linn
045	Malheur
047	Marion
049	Morrow
051	Multnomah
053	Polk
055	Sherman
057	Tillamook
059	Umatilla
061	Union
063	Wallowa
065	Wasco
067	Washington
069	Wheeler
071	Yamhill
PA	**Pennsylvania**
	County
001	Adams
003	Allegheny
005	Armstrong
007	Beaver
009	Bedford
011	Berks
013	Blair
015	Bradford
017	Bucks
019	Butler
021	Cambria
023	Cameron
025	Carbon
027	Centre
029	Chester
031	Clarion
033	Clearfield
035	Clinton
037	Columbia
039	Crawford
041	Cumberland
043	Dauphin
045	Delaware
047	Elk
049	Erie
051	Fayette
053	Forest
055	Franklin
057	Fulton
059	Greene
061	Huntington
063	Indiana
065	Jefferson
067	Juniata
069	Lackawanna
071	Lancaster
073	Lawrence
075	Lebanon
077	Lehigh
079	Luzerne
081	Lycoming
083	McKean
085	Mercer
087	Mifflin
089	Monroe
091	Montgomery
093	Montour
095	Northampton
097	Northumberland
099	Perry
101	Philadelphia
103	Pike
105	Potter
107	Schuylkill
109	Snyder
111	Somerset
113	Sullivan
115	Susquehanna
117	Tioga
119	Union
121	Venango
123	Warren
125	Washington
127	Wayne
129	Westmoreland
131	Wyoming
133	York
RI	**Rhode Island**
	County
001	Bristol
003	Kent
005	Newport
RI–Con.	
007	Providence
009	Washington
SC	**South Carolina**
	County
001	Abbeville
003	Aiken
005	Allendale
007	Anderson
009	Bamberg
011	Barnwell
013	Beaufort
015	Berkeley
017	Calhoun
019	Charleston
021	Cherokee
023	Chester
025	Chesterfield
027	Clarendon
029	Colleton
031	Darlington
033	Dillon
035	Dorchester
037	Edgefield
039	Fairfield
041	Florence
043	Georgetown
045	Greenville
047	Greenwood
049	Hampton
051	Horry
053	Jasper
055	Kershaw
057	Lancaster
059	Laurens
061	Lee
063	Lexington
065	McCormick
067	Marion
069	Marlboro
071	Newberry
073	Oconee
075	Orangeburg
077	Pickens
079	Richland
081	Saluda
083	Spartanburg
085	Sumter
087	Union
089	Williamsburg
091	York
SD	**South Dakota**
	County
003	Aurora
005	Beadle
007	Bennett
009	Bon Homme
011	Brookings
013	Brown
015	Brule
017	Buffalo
019	Butte
021	Campbell
023	Charles Mix
025	Clark
027	Clay
029	Codington
031	Corson
033	Custer
035	Davison
037	Day
039	Deuel
041	Dewey
043	Douglas
045	Edmunds
047	Fall River
049	Faulk
051	Grant
053	Gregory
055	Haakon
057	Hamlin
059	Hand
061	Hanson
063	Harding
065	Hughes
067	Hutchinson
069	Hyde
071	Jackson
073	Jerauld
075	Jones
077	Kingsbury
SD–Con.	
079	Lake
081	Lawrence
083	Lincoln
085	Lyman
087	McCook
089	McPherson
091	Marshall
093	Meade
095	Mellette
097	Miner
099	Minnehaha
101	Moody
103	Pennington
105	Perkins
107	Potter
109	Roberts
111	Sanborn
113	Shannon
115	Spink
117	Stanley
119	Sully
121	Todd
123	Tripp
125	Turner
127	Union
129	Walworth
131	Washabaugh
135	Yankton
137	Ziebach
TN	**Tennessee**
	County
001	Anderson
003	Bedford
005	Benton
007	Bledsoe
009	Blount
011	Bradley
013	Campbell
015	Cannon
017	Carroll
019	Carter
021	Cheatham
023	Chester
025	Claiborne
027	Clay
029	Cocke
031	Coffee
033	Crockett
035	Cumberland
037	Davidson
039	Decatur
041	De Kalb
043	Dickson
045	Dyer
047	Fayette
049	Fentress
051	Franklin
053	Gibson
055	Giles
057	Grainger
059	Greene
061	Grundy
063	Hamblen
065	Hamilton
067	Hancock
069	Hardeman
071	Hardin
073	Hawkins
075	Haywood
077	Henderson
079	Henry
081	Hickman
083	Houston
085	Humphreys
087	Jackson
089	Jefferson
091	Johnson
093	Knox
095	Lake
097	Lauderdale
099	Lawrence
101	Lewis
103	Lincoln
105	Loudon
107	McMinn
109	McNairy
111	Macon
113	Madison
115	Marion
117	Marshall
119	Maury

Table 2 – Symbols used for States (and other areas) and code numbers used for counties and independent cities – Cont.

STATES, COUNTIES, AND INDEPENDENT CITIES–Continued

TN–Con.	
121	Meigs
123	Monroe
125	Montgomery
127	Moore
129	Morgan
131	Obion
133	Overton
135	Perry
137	Pickett
139	Polk
141	Putnam
143	Rhea
145	Roane
147	Robertson
149	Rutherford
151	Scott
153	Sequatchie
155	Sevier
157	Shelby
159	Smith
161	Stewart
163	Sullivan
165	Sumner
167	Tipton
169	Trousdale
171	Unicoi
173	Union
175	Van Buren
177	Warren
179	Washington
181	Wayne
183	Weakley
185	White
187	Williamson
189	Wilson
TX	Texas
	County
001	Anderson
003	Andrews
005	Angelina
007	Aransas
009	Archer
011	Armstrong
013	Atascosa
015	Austin
017	Bailey
019	Bandera
021	Bastrop
023	Baylor
025	Bee
027	Bell
029	Bexar
031	Blanco
033	Borden
035	Bosque
037	Bowie
039	Brazoria
041	Brazos
043	Brewster
045	Briscoe
047	Brooks
049	Brown
051	Burleson
053	Burnet
055	Caldwell
057	Calhoun
059	Callahan
061	Cameron
063	Camp
065	Carson
067	Cass
069	Castro
071	Chambers
073	Cherokee
075	Childress
077	Clay
079	Cochran
081	Coke
083	Coleman
085	Collin
087	Collingsworth
089	Colorado
091	Comal
093	Comanche
095	Concho
097	Cooke
099	Coryell
101	Cottle
103	Crane
105	Crockett
107	Crosby
TX–Con.	
109	Culberson
111	Dallam
113	Dallas
115	Dawson
117	Deaf Smith
119	Delta
121	Denton
123	De Witt
125	Dickens
127	Dimmit
129	Donley
131	Duval
133	Eastland
135	Ector
137	Edwards
139	Ellis
141	El Paso
143	Erath
145	Falls
147	Fannin
149	Fayette
151	Fisher
153	Floyd
155	Foard
157	Fort Bend
159	Franklin
161	Freestone
163	Frio
165	Gaines
167	Galveston
169	Garza
171	Gillespie
173	Glasscock
175	Goliad
177	Gonzales
179	Gray
181	Grayson
183	Gregg
185	Grimes
187	Guadalupe
189	Hale
191	Hall
193	Hamilton
195	Hansford
197	Hardeman
199	Hardin
201	Harris
203	Harrison
205	Hartley
207	Haskell
209	Hays
211	Hemphill
213	Henderson
215	Hidalgo
217	Hill
219	Hockley
221	Hood
223	Hopkins
225	Houston
227	Howard
229	Hudspeth
231	Hunt
233	Hutchinson
235	Irion
237	Jack
239	Jackson
241	Jasper
243	Jeff Davis
245	Jefferson
247	Jim Hogg
249	Jim Wells
251	Johnson
253	Jones
255	Karnes
257	Kaufman
259	Kendall
261	Kenedy
263	Kent
265	Kerr
267	Kimble
269	King
271	Kinney
273	Kleberg
275	Knox
277	Lamar
279	Lamb
281	Lampasas
283	La Salle
285	Lavaca
287	Lee
289	Leon
291	Liberty
TX–Con.	
293	Limestone
295	Lipscomb
297	Live Oak
299	Llano
301	Loving
303	Lubbock
305	Lynn
307	McCulloch
309	McLennan
311	McMullen
313	Madison
315	Marion
317	Martin
319	Mason
321	Matagorda
323	Maverick
325	Medina
327	Menard
329	Midland
331	Milam
333	Mills
335	Mitchell
337	Montague
339	Montgomery
341	Moore
343	Morris
345	Motley
347	Nacogdoches
349	Navarro
351	Newton
353	Nolan
355	Nueces
357	Ochiltree
359	Oldham
361	Orange
363	Palo Pinto
365	Panola
367	Parker
369	Parmer
371	Pecos
373	Polk
375	Potter
377	Presidio
379	Rains
381	Randall
383	Reagan
385	Real
387	Red River
389	Reeves
391	Refugio
393	Roberts
395	Robertson
397	Rockwall
399	Runnels
401	Rusk
403	Sabine
405	San Augustine
407	San Jacinto
409	San Patricio
411	San Saba
413	Schleicher
415	Scurry
417	Shackelford
419	Shelby
421	Sherman
423	Smith
425	Somervell
427	Starr
429	Stephens
431	Sterling
433	Stonewall
435	Sutton
437	Swisher
439	Tarrant
441	Taylor
443	Terrell
445	Terry
447	Throckmorton
449	Titus
451	Tom Green
453	Travis
455	Trinity
457	Tyler
459	Upshur
461	Upton
463	Uvalde
465	Val Verde
467	Van Zandt
469	Victoria
471	Walker
473	Waller
475	Ward
TX–Con.	
477	Washington
479	Webb
481	Wharton
483	Wheeler
485	Wichita
487	Wilbarger
489	Willacy
491	Williamson
493	Wilson
495	Winkler
497	Wise
499	Wood
501	Yoakum
503	Young
505	Zapata
507	Zavala
UT	Utah
	County
001	Beaver
003	Box Elder
005	Cache
007	Carbon
009	Daggett
011	Davis
013	Duchesne
015	Emery
017	Garfield
019	Grand
021	Iron
023	Juab
025	Kane
027	Millard
029	Morgan
031	Piute
033	Rich
035	Salt Lake
037	San Juan
039	Sanpete
041	Sevier
043	Summit
045	Tooele
047	Uintah
049	Utah
051	Wasatch
053	Washington
055	Wayne
057	Weber
VA	Virginia
	County
001	Accomack
003	Albemarle
005	Alleghany
007	Amelia
009	Amherst
011	Appomattox
013	Arlington
015	Augusta
017	Bath
019	Bedford
021	Bland
023	Botetourt
025	Brunswick
027	Buchanan
029	Buckingham
031	Campbell
033	Caroline
035	Carroll
036	Charles City
037	Charlotte
041	Chesterfield
043	Clarke
045	Craig
047	Culpeper
049	Cumberland
051	Dickenson
053	Dinwiddie
057	Essex
059	Fairfax
061	Fauquier
063	Floyd
065	Flavanna
067	Franklin
069	Frederick
071	Giles
073	Gloucester
075	Goochland
077	Grayson
079	Greene
081	Greensville
083	Halifax
VA–Con.	
085	Hanover
087	Henrico
089	Henry
091	Highland
093	Isle of Wight
095	James City
097	King and Queen
099	King George
101	King William
103	Lancaster
105	Lee
107	Loudoun
109	Louisa
111	Lunenburg
113	Madison
115	Mathews
117	Mecklenburg
119	Middlesex
121	Montgomery
123	Nansemond
125	Nelson
127	New Kent
131	Northampton
133	Northumberland
135	Nottoway
137	Orange
139	Page
141	Patrick
143	Pittsylvania
145	Powhatan
147	Prince Edward
149	Prince George
153	Prince William
155	Pulaski
157	Rappahannock
159	Richmond
161	Roanoke
163	Rockbridge
165	Rockingham
167	Russell
169	Scott
171	Shenandoah
173	Smyth
175	Southampton
177	Spotsylvania
179	Stafford
181	Surry
183	Sussex
185	Tazewell
187	Warren
191	Washington
193	Westmoreland
195	Wise
197	Wythe
199	York
	Independent City
510	Alexandria
515	Bedford
520	Bristol
530	Buena Vista
540	Charlottesville
550	Chesapeake
560	Clifton Forge
570	Colonial Heights
580	Covington
590	Danville
595	Emporia
600	Fairfax
610	Falls Church
620	Franklin
630	Fredericksburg
640	Galax
650	Hampton
660	Harrisonburg
670	Hopewell
678	Lexington
680	Lynchburg
690	Martinsville
700	Newport News
710	Norfolk
720	Norton
730	Petersburg
740	Portsmouth
750	Radford
760	Richmond
770	Roanoke
775	Salem
780	South Boston
790	Staunton
800	Suffolk
810	Virginia Beach
820	Waynesboro
VA–Con.	
830	Williamsburg
840	Winchester
VT	Vermont
	County
001	Addison
003	Bennington
005	Caledonia
007	Chittenden
009	Essex
011	Franklin
013	Grand Isle
015	Lamoille
017	Orange
019	Orleans
021	Rutland
023	Washington
025	Windham
027	Windsor
WA	Washington
	County
001	Adams
003	Asotin
005	Benton
007	Chelan
009	Clallam
011	Clark
013	Columbia
015	Cowlitz
017	Douglas
019	Ferry
021	Franklin
023	Garfield
025	Grant
027	Grays Harbor
029	Island
031	Jefferson
033	King
035	Kitsap
037	Kittitas
039	Klickitat
041	Lewis
043	Lincoln
045	Mason
047	Okanogan
049	Pacific
051	Pend Oreille
053	Pierce
055	San Juan
057	Skagit
059	Skamania
061	Snohomish
063	Spokane
065	Stevens
067	Thurston
069	Wahkiakum
071	Walla Walla
073	Whatcom
075	Whitman
077	Yakima
WI	Wisconsin
	County
001	Adams
003	Ashland
005	Barron
007	Bayfield
009	Brown
011	Buffalo
013	Burnett
015	Calumet
017	Chippewa
019	Clark
021	Columbia
023	Crawford
025	Dane
027	Dodge
029	Door
031	Douglas
033	Dunn
035	Eau Claire
037	Florence
039	Fond Du Lac
041	Forest
043	Grant
045	Green
047	Green Lake
049	Iowa
051	Iron
053	Jackson
055	Jefferson

Table 2–Symbols used for States (and other areas) and code numbers used for counties and independent cities – Cont.

STATES, COUNTIES, AND INDEPENDENT CITIES–Continued

WI–Con.	
057	Juneau
059	Kenosha
061	Kewaunee
063	La Crosse
065	Lafayette
067	Langlade
069	Lincoln
071	Manitowoc
073	Marathon
075	Marinette
077	Marquette
078	Menominee
079	Milwaukee
081	Monroe
083	Oconto
085	Oneida
087	Outagamie
089	Ozaukee
091	Pepin
093	Pierce
095	Polk
097	Portage
WI–Con.	
099	Price
101	Racine
103	Richland
105	Rock
107	Rusk
109	St. Croix
111	Sauk
113	Sawyer
115	Shawano
117	Sheboygan
119	Taylor
121	Trempealeau
123	Vernon
125	Vilas
127	Walworth
129	Washburn
131	Washington
133	Waukesha
135	Waupaca
137	Waushara
139	Winnebago
141	Wood
WV	**West Virginia**
	County
001	Barbour
003	Berkeley
005	Boone
007	Braxton
009	Brooke
011	Cabell
013	Calhoun
015	Clay
017	Doddridge
019	Fayette
021	Gilmer
023	Grant
025	Greenbrier
027	Hampshire
029	Hancock
031	Hardy
033	Harrison
035	Jackson
037	Jefferson
039	Kanawha
WV–Con.	
041	Lewis
043	Lincoln
045	Logan
047	McDowell
049	Marion
051	Marshall
053	Mason
055	Mercer
057	Mineral
059	Mingo
061	Monongalia
063	Monroe
065	Morgan
067	Nicholas
069	Ohio
071	Pendleton
073	Pleasants
075	Pocahontas
077	Preston
079	Putnam
081	Raleigh
WV–Con.	
083	Randolph
085	Ritchie
087	Roane
089	Summers
091	Taylor
093	Tucker
095	Tyler
097	Upshur
099	Wayne
101	Webster
103	Wetzel
105	Wirt
107	Wood
109	Wyoming
WY	**Wyoming**
	County
001	Albany
003	Big Horn
005	Campbell
007	Carbon
WY–Con.	
009	Converse
011	Crook
013	Fremont
015	Goshen
017	Hot Springs
019	Johnson
021	Laramie
023	Lincoln
025	Natrona
027	Niobrara
029	Park
031	Platte
033	Sheridan
035	Sublette
037	Sweetwater
039	Teton
041	Uinta
043	Washakie
045	Weston

OTHER AREAS

CN	Canada
EB	Canton and Enderbury Islands
GU	Guam
JI	Johnston Island
Mk.	Wake Island
MW	Midway Island
MX	Mexico
PR	Puerto Rico
RK	Ryukyu Islands (Okinawa)
SO	American Samoa
TT	Trust Territories of Pacific Islands
VU	Virgin Islands (USA)
XX	U.S. Installations (foreign)

NEW ENGLAND REGION 01

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
01	F	68773		NRS T CUTLER RESERVOIR	4440	06711	ME	029	RESER	1960			5				NFE
01	O	51014	01054200	WILD R AT GILEAD ME	442325	0705853	ME	017	STREAM	1964			*				GS
01	Q	65681		EB SACO	4411	07107	NH	003	STREAM	1967			2				FS
02	B	56780	01076500	PEMIGEWASSET R AT PLYMOUTH NH	434533	0714110	NH	009	STREAM	1967	1974		6				GS
02	D	56781	01089000	SOUCOOK R NR CONCORD NH	431422	0712744	NH	013	STREAM	1967	1974		6				GS
02	D	56782	01094000	SOUHEGAN R AT MERRIMACK NH	425127	0713024	NH	011	STREAM	1967	1974		6				GS
02	D	55066	240019	MERRIMAC R AB LOWELL MASS	423820	0712217	MA	017	STREAM	1958	1969		*				EPA
02	D	56783	01097000	ASSABET R AT MAYNARD MA	422555	0712701	MA	017	STREAM	1967	1974		6				GS
02	D	56785	01099500	CONCORD R BL R MEADOW BK AT LOWELL	423812	0711809	MA	017	STREAM	1967	1974		6				GS
02	D	56786	01100000	MERRIMACK R BL CONCORD R AT LOWELL	423845	0711756	MA	017	STREAM	1966	1972		3				GS
02	E	67288	01103500	CHARLES R AT CHARLES R VILLAGE MA	421523	0711542	MA	021	STREAM	1959		*	5				GS
02	E	56796	01108000	TAUNTON R AT STATE FARM NR BRIDGEWA	415605	0705718	MA	023	STREAM	1967	1974		6				GS
02	E	56803	01117800	WOOD R NR ARCADIA RI	413426	0714316	RI	009	STREAM	1967	1974		6				GS
02	E	83939	01118525	PAWCATUCK R NR PAWCATUCK CT	411937	0715059	CT	011	ESTARY	1974					7		GS
02	G	83864	01119375	WILLIAMANTIC R AT MERROW CT	415007	0721838	CT	013	STREAM	1974					7		GS
02	G	57748	2W	WILLIMANTIC R RT 32 & RT 275	414706	0721654	CT	013	STREAM	1958	1971		6				DOO
02	G	83865	01122001	NATCHAUG R AT WILLIAMANTIC CT	414310	0721146	CT	015	STREAM	1974					7		GS
02	G	83866	01122610	SHETUCKET R AT S WINDHAM CT	414056	0720959	CT	015	STREAM	1974					7		GS
02	G	57750	4S	SHETUCKET R RT 169 BRIDGE LISBON	413332	0720250	CT	011	STREAM	1958	1971		6				DOO
02	F	67297	01124000	QUINEBAUG R AT QUINEBAUG CONN	420120	0715722	CT	015	STREAM	1959		*	*				GS
02	F	57751	50	QUINEBAUG R RT 197 BRIDGE THOMPSON	420124	0715718	CT	015	STREAM	1958	1971		6				DOO
02	F	57752	6F	FRENCH R RT 12 BRIDGE GROSVENORDAL	415926	0715350	CT	015	STREAM	1958	1971		6				DOO
02	F	83867	01125150	FRENCH R A MECHANICSVILLE CT	415651	0715323	CT	015	STREAM	1962					7		GS
02	F	83868	01125200	QUINEBAUG R AT PUTNAM CT	415507	0715438	CT	015	STREAM	1974					7		GS
02	F	83938	01125720	QUINEBAUG R AT POMFRET LANDING CT	415057	0715517	CT	015	STREAM	1962					7		GS
02	F	50213	01127000	QUINEBAUG R AT JEWETT CITY CT	413552	0715905	CT	011	STREAM	1951		*			7		GS
02	G	57758	12T	THAMES R RT 2 BRIDGE NORWICH	413156	0720436	CT	011	STREAM	1958	1971		6				DOO
02	G	83870	01127701	THAMES R NR MOHEGAN CT	412854	0720432	CT	011	ESTARY	1974					7		GS
02	I	56804	01135500	PASSUMPSIC R A PASSUMPSIC VT	442156	0720223	VT	005	STREAM	1967	1974		6				GS
02	I	56805	01137500	AMMONOOSUC R AT BETHLEHEM JUNC NH	441608	0713752	NH	009	STREAM	1967	1974		6				GS
02	J	56806	01144000	WHITE R AT WEST HARTFORD VT	434251	0722507	VT	027	STREAM	1967	1974		6				GS
02	J	56807	01153500	WILLIAMS R AT BROCKWAYS MILLS VT	431231	0723105	VT	025	STREAM	1967	1974		6				GS
02	K	56809	01164000	MILLERS R AT S DUTH ROYALSTON MA	423747	0720903	MA	027	STREAM	1965	1966		*				GS
02	K	75323	01165000	E B TULLY R NR ATHOL MA	423832	0721334	MA	027	STREAM	1965	1966		*				GS
02	K	75324	01166500	MILLERS R AT ERVING MA	423551	0722619	MA	011	STREAM	1965	1966		*				GS
02	K	56810	01167800	BEAVER BK AT WILMINGTON VT	425138	0725104	VT	025	STREAM	1967			6				GS
02	K	56811	01168500	DEERFIELD R AT CHARLEMONT MA	423733	0725120	MA	011	STREAM	1967	1969		*				GS
02	K	56812	01169000	NORTH R AT SHATTUCKVILLE MA	423818	0724332	MA	011	STREAM	1967	1969		*				GS
02	K	56813	01169990	SOUTH R NR CONWAY MA	423231	0724139	MA	011	STREAM	1967	1969		*				GS
02	K	56814	01170000	DEERFIELD R NR W DEERFIELD MA	423209	0723914	MA	011	STREAM	1967	1970		*				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
02	K	75325	01170100	GREEN R NR COLRAIN MA	424212	0724016	MA	011	STREAM	1967	1969		*				GS
02	K	56815	01176000	QUABOAG R AT WEST BRIMFIELD MA	421056	0721551	MA	013	STREAM	1967	1974		6				GS
02	K	56816	01181000	W B WESTFIELD R AT HUNTINGTON MA	421414	0725346	MA	015	STREAM	1967	1974		6				GS
02	K	56817	01183500	WESTFIELD R NR WESTFIELD MA	420624	0724158	MA	013	STREAM	1967	1974		6				GS
02	K	57735	1C	CONNECTICUT R CANAL LOCKS ENFIELD	415958	0723628	CT	003	STREAM	1964			6				000
02	K	63528	01184000	CONNECTICUT R AT THOMPSONVILLE CONN	415914	0723621	CT	003	STREAM	1952			5		7		GS
02	K	83872	01186800	STILL R AT RIVERTON CT	415734	0730112	CT	005	STREAM	1974					7		GS
02	K	63529	01188000	BURLINGTON BK NR BURLINGTON CT	414710	0725755	CT	003	STREAM	1968					7		GS
02	K	62263		WINDSOR SITE WASTE EFFLUENT	415320	0724251	CT	003	STREAM	1959					*		ERD
02	K	83874	01188085	FARMINGTON R AT UNIONVILLE CT	414552	0725347	CT	003	STREAM	1974					7		GS
02	K	83875	01189030	PEQUABUCK R AT FARMINGTON CT	414300	0725025	CT	003	STREAM	1974					7		GS
02	K	83876	01189120	FARMINGTON R AT AVON CT	414824	0724923	CT	003	STREAM	1974					7		GS
02	K	73144	01189995	FARMINGTON R AT TARIFFVILLE CT	415430	0724540	CT	003	STREAM	1971					7		GS
02	K	70303		FARMINGTON R BELOW WINDSOR SITE	415339	0724326	CT	003	STREAM	1959						6	ERD
02	K	83877	01190015	FARMINGTON AT WINDSOR CT	415125	0723821	CT	003	STREAM	1974					7		GS
02	K	83878	01190069	CONNECTICUT R AT HARTFORD CT	414636	0723929	CT	003	ESTARY	1974					7		GS
02	K	83879	01191510	PARK R AT HARTFORD CT			CT	003	STREAM	1974					7		GS
02	K	83880	01192516	HOCKANUM R AT E HARTFORD CT	414522	0723836	CT	003	STREAM	1974					7		GS
02	K	83881	01192911	CONNECTICUT R AT MIDDLETOWN CT	413400	0723853	CT	007	ESTARY	1974					7		GS
02	K	63531	01193050	CONNECTICUT R AT MIDDLE HADDAM CT	413228	0723313	CT	007	STREAM	1968					7		GS
02	K	63532	01193500	SALMCN R NR EAST HAMPTON CT	413311	0722657	CT	007	STREAM	1960		*			7		GS
02	K	83882	01193750	CONNECTICUT R AT E HADDAM CT	412705	0722755	CT	007	ESTARY	1974					7		GS
02	L	83883	01196222	QUINIPIAC R NR MERIDEN CT	413145	0725150	CT	009	STREAM	1974					7		GS
02	L	63533	01196500	QUINNIPIAC R AT WALLINGFORD CT	412658	0725029	CT	009	STREAM	1953					7		GS
02	L	83884	01196530	QUINNIPAC R AT N HAVEN CT	412324	0725219	CT	009	ESTARY	1974					7		GS
02	L	83886	01196657	NEW HAVEN HARBOR NR NEW HAVEN CT	411611	0725444	CT	009	OTHER	1974					7		GS
02	M	83888	01200600	HOUSATONIC R NR NEW MILFORD CT	413535	0732700	CT	005	STREAM	1974					7		GS
02	M	83889	01201485	STILL R AT BROOKFIELD JCT CT	412723	0732347	CT	001	STREAM	1974					7		GS
02	M	83890	01201700	LK LILLINONAH NR BROOKFIELD CENTER	412847	0732104	CT	001	LAKE	1974					7		GS
02	M	74446	01203000	SHEPAUG R NR ROXBURY CT	413259	0731949	CT	005	STREAM	1953					7		GS
02	M	83891	01204510	LK ZOAR AT RIVERSIDE CT	412621	0731453	CT	001	LAKE	1974					7		GS
02	M	74447	01208500	NAUGATUCK R AT BEACON FALLS CT	412632	0730347	CT	009	STREAM	1960					7		GS
02	M	83892	01208736	NAUGATUCK R AT ANSONIA CT	411950	0730447	CT	009	ESTARY	1974					7		GS
02	M	83893	01208828	HOUSATONIC R AT STRATFORD CT	411201	0730639	CT	001	STREAM	1974					7		GS
02	N	63525	01208990	SAUGATUCK R NR REDDING CT	411740	0732344	CT	001	STREAM	1968					7		GS
02	M	83940	01209910	STAMFORD HARBOR AT STAMFORD CT	410147	0733217	CT	001	ESTARY	1974					7		GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCON-TINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN:		01															
TOTAL:			76														

MID ATLANTIC REGION 02

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD BEGAN	PERIOD OF RECORD DISCONTINUED	INTERRUPTED RECORD	SEDIMENT CONCENTRATION (SUSPENDED)	SEDIMENT PARTICLE SIZE (SUSPENDED)	SEDIMENT PARTICLE SIZE (BED MATERIAL)	SEDIMENT OTHER	AGENCY REPORTING
03	D	70301		GLOWEGEE C BETWEEN S3G AND D1G	430238	0735709	NY	091	STREAM	1960						6	ERD
03	D	70300		GLOWEGEE C BELOW SAN SEWER OUT	430213	0735655	NY	091	STREAM	1960						6	ERD
03	D	70298		KESSELRING SITE S3G DITCH	430236	0735717	NY	091	OTHER	1957						6	ERD
03	D	70299		KESSELRING SITE D1G DITCH	430230	0735706	NY	091	OTHER	1960						6	ERD
03	D	62261		GLOWEGEE C ABOVE S3G DITCH	430229	0735640	NY	091	STREAM	1950						6	ERD
03	D	54062	01330500	KAYADEROSSERAS C NR WEST MILTON NY	430225	0735430	NY	091	STREAM	1952		*	7				GS
03	D	56820	01331400	DRY BK NR ADAMS MA	423520	0730648	MA	003	STREAM	1967	1968		*				GS
03	D	56821	01331500	HOOSIC R AT ADAMS MA	423637	0730732	MA	003	STREAM	1967	1968		*				GS
03	D	56822	01332000	N B HOOSIC R AT NORTH ADAMS MA	424208	0730537	MA	003	STREAM	1967	1969		*				GS
03	D	56823	01332500	HOOSIC R NR WILLIAMSTOWN MA	424221	0731050	MA	003	STREAM	1967	1969		*				GS
03	D	75340	01333000	GREEN R AT WILLIAMSTOWN MA	424232	0731150	MA	003	STREAM	1967	1969		*				GS
03	C	62264		KAPL KNOLLS SITE PARSHALL FLUME	424931	0735155	NY	093	OTHER	1948			*	*		6	ERD
03	G	54068	01362198	ESOPUS C AT SHANDAKEN NY	420659	0742320	NY	111	STREAM	1963			5				GS
03	H	51140	01377000	HACKENSACK R AT RIVERVALE, N.J.	405955	0735927	NJ	003	STREAM	1962			5	7			GS
03	H	51142	01379000	PASSAIC R NR MILLINGTON, N.J.	404048	0743145	NJ	035	STREAM	1923			5	7			GS
03	H	51143	01379500	PASSAIC R NR CHATHAM, N.J.	404331	0742323	NJ	027	STREAM	1963			5	7			GS
03	H	51146	01381500	WHIPPANY R AT MORRISTOWN, N.J.	404821	0742722	NJ	027	STREAM	1923			5	7			GS
03	H	51150	01387500	RAMAPO R NEAR MAHWAH, N.J.	410551	0740948	NJ	003	STREAM	1924			*	*			GS
03	H	51151	01388500	POMPTON R AT POMPTON PLAINS, N.J.	405809	0741729	NJ	027	STREAM	1963			5	7			GS
03	H	51153	01389500	PASSAIC R AT LITTLE FALLS, N.J.	405305	0741335	NJ	031	STREAM	1962			*	*			GS
03	J	51156	01396500	S B RARITAN R NR HIGH BRIDGE, N.J.	404040	0745245	NJ	019	STREAM	1923			5	7			GS
03	J	51157	01396800	SPRUCE RN AT CLINTON, N.J.	403821	0745458	NJ	019	STREAM	1959			*	*			GS
03	J	51158	01397000	SB RARITAN R AT STANTON, N.J.	403421	0745210	NJ	019	STREAM	1959			5	7			GS
03	J	51159	01398500	NB RARITAN R NR FAR HILLS	404230	0743811	NJ	035	STREAM	1923			5	7			GS
03	J	51160	01400000	N B RARITAN R NR RARITAN, N.J.	403410	0744045	NJ	035	STREAM	1925			5	7			GS
03	J	83719	01400850	WOODSVILLE BROOK AT WOODSVILLE, N.J	402237	0744933	NJ	021	STREAM	1956	1970		*	*			GS
03	J	74373	01400870	STONY BK TRL 3 NR HOPEWELL NJ	402412	0744806	NJ	021	STREAM	1956	1970		*	*			GS
03	J	74374	01400900	STONY BK AT GLENMOORE, N.J.	402155	0744714	NJ	021	STREAM	1956	1970		*	*			GS
03	J	74375	01400930	BALDWIN C AT PENNINGTON, N.J.	402018	0744750	NJ	021	STREAM	1956	1970		*	*			GS
03	J	51162	01400932	BALDWIN C AT BALDWIN LK NR PENNINGT	402026	0744648	NJ	021	STREAM	1962	1969		3	7			GS
03	J	74376	01400947	STONY BROOK AT PENNINGTON, N.J.	401950	0744605	NJ	021	STREAM	1969	1970		*	*			GS
03	J	74377	01400950	HART BK NR PENNINGTON, N.J.	401917	0744538	NJ	021	STREAM	1968	1970		*	*			GS
03	J	74378	01400960	HONEY B NR MOUNT ROSE, N.J.	402117	0744529	NJ	021	STREAM	1968	1970		*	*			GS
03	J	74379	01400962	HONEY B TR NR PENNINGTON NJ	402121	0744522	NJ	021	STREAM	1968	1969		*	*			GS
03	J	74380	01400970	HONEY B NR ROSEDALE, N.J.	402026	0744439	NJ	021	STREAM	1956	1970		*	*			GS
03	J	51163	01401000	STONY BK AT PRINCETON, N.J.	401959	0744056	NJ	021	STREAM	1925			5	7			GS
03	J	51164	01402000	MILLSTONE R AT BLACKWELLS MILLS, N.	402830	0743434	NJ	035	STREAM	1962			5	7			GS
03	J	51165	01403060	RARITAN R AT BOUND BROOK N J	403300	0743305	NJ	035	STREAM	1963	1968		8	8			GS
03	J	74381	01403300	RARITAN R AT QUEENS BR AT BOUND BRO	403334	0743141	NJ	035	STREAM	1963			5	7			GS
03	J	51167	01406700	RARITAN R AT PERTH AMBOY, N.J.	403031	0741730	NJ	023	ESTARY	1966	1968		7				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
03	K	74388	01407830	MANASQUAN R NR GEORGIA, N.J.	401236	0741641	NJ	025	STREAM	1972			5	7			GS
03	K	74393	01407860	DEBOIS CK AT ADELPHIA NJ	401302	0741550	NJ	025	STREAM	1972			5	7			GS
03	K	74402	01407900	MANASQUAN R AT WEST FARMS NJ	401134	0741144	NJ	025	STREAM	1972			5	7			GS
03	K	51168	01408000	MANASQUAN R AT SQUANKUM NJ	400947	0740921	NJ	025	STREAM	1962			5	7			GS
03	K	76017	01408015	MINGAMAHONE BK AT FARMINGDALE, N.J.	401138	0740942	NJ	025	STREAM	1972			5	7			GS
03	K	73008	01410787	GREAT EGG HARBOR TR AT SICKERVILLE	394332	0745739	NJ	007	STREAM	1972			5	7			GS
03	K	73007	01410810	FOURMILE B AT NEW BROOKLYN NJ	394147	0745624	NJ	007	STREAM	1972			5	7			GS
03	K	74419	01410820	GREAT EGG HARBOR R NR BLUE ANCHOR N	394009	0745449	NJ	007	STREAM	1972			5	7			GS
03	K	51171	01411000	GREAT EGG HARBOR R AT FOLSOM, N.J.	393542	0745106	NJ	001	STREAM	1925			5	7			GS
04	D	69889	01431500	LACKAWAXEN R AT HAWLEY PA	412834	0751021	PA	127	STREAM	1970			8	8			GS
04	D	54078	01434000	DELAWARE R AT PORT JERVIS NY	412214	0744152	PA	103	STREAM	1900		*	3	7			GS
04	D	69891	01439500	BUSH KILL AT SHOEMAKERS PA	410517	0750217	PA	089	STREAM	1970			8	8			GS
04	D	51174	01440000	FLAT BK NR FLATBROOKVILLE, N.J.	410624	0745709	NJ	037	STREAM	1923		*	5	7			GS
04	D	56336	01442750	DELAWARE R AT DUNNFIELD NJ.	415840	0750819	NJ	041	STREAM	1965			3	6			GS
04	B	69901	01447500	LEHIGH R AT STODDARTSVILLE PA	410749	0753733	PA	089	STREAM	1970			8	8			GS
04	B	69904	01451000	LEHIGH R AT WALNUTPORT PA	404525	0753612	PA	095	STREAM	1948	1969	*	2	7			GS
04	B	76539	01451500	L LEHIGH C NR ALLENTOWN, PA	403456	0752900	PA	077	STREAM	1957			2				GS
04	B	76521	01451695	JORDAN C NR PLEASANT CORNERS PA.	403955	0754119	PA	077	STREAM	1972			5		7		GS
04	B	76522	01451700	SWITZER C NR PLEASANT CORNERS PA.	403934	0754133	PA	077	STREAM	1972			5		7		GS
04	B	76523	01451770	MILL C RT. 309 SYBERTSVILLE PA.	404035	0753825	PA	077	STREAM	1972			5		7		GS
04	B	76540	01451800	JORDAN C NR SCHNECKSVILLE PA	403942	0753738	PA	077	STREAM	1966	1969		2				GS
04	B	76541	01452000	JORDAN C AT ALLENTOWN PA	403723	0752858	PA	077	STREAM	1957	1968		2	7			GS
04	D	51177	01457000	MLSCCNETCCNG R NR BLOOMSBURG NJ	404020	0750340	NJ	019	STREAM	1923			5	7			GS
04	D	51178	01463500	DELAWARE R AT TRENTON, N.J.	401318	0744642	NJ	021	STREAM	1923			3	5	7	6	GS
04	D	51180	01464500	CROSSWICKS C AT EXTONVILLE, N.J.	400815	0743602	NJ	021	STREAM	1957		*	5	7			GS
04	D	53969	01465770	POQUESSING C AT TREVOSE ROAD PHILAD	400755	0745940	PA	101	STREAM	1965			2				GS
04	D	53970	01465780	POQUESSING C AB BYBERRY CR A PHIL	400410	0745833	PA	101	STREAM	1964	1970		2		7		GS
04	D	53571	01465785	WALTON RN AT PHILADELPHIA PA	400522	0745937	PA	101	STREAM	1964	1969		2	7	7		GS
04	D	53972	01465790	BYBERRY C AT CHALFONT ROAD PHILADEL	400501	0745857	PA	101	STREAM	1966			2				GS
04	D	53973	01465795	BYBERRY C AT GRANT AVE PHILADELPHIA	400345	0745947	PA	101	STREAM	1964	1970		2	6			GS
04	D	53976	01467042	PENNYPACK C AT PINE ROAD PHILADELPH	400523	0750410	PA	101	STREAM	1965			2		*		GS
04	D	53977	01467045	PENNYPACK C BL VERREE RD PHILADELP	400504	0750334	PA	101	STREAM	1964	1970		2		7		GS
04	D	53979	01467050	WOODEN BRIDGE RN AT PHILADELPHIA PA	400319	0750122	PA	101	STREAM	1965					*		GS
04	D	53980	01467086	TACONY C AT COUNTY LINE PHILADELPHI	400247	0750641	PA	101	STREAM	1965					*		GS
04	D	63066	01467150	COOPER R AT HADDENFIELD, N.J.	395411	0750119	NJ	007	STREAM	1968			5	7			GS
04	D	74424	01467330	SB BIG TIMBER C AT BLACKWOOD, NJ	394817	0740433	NJ	007	STREAM	1970			5	7			GS
04	C	53993	01470500	SCHUYLKILL R AT BERNE PA	403121	0755955	PA	011	STREAM	1947		*	3	6			GS
04	C	76525	01470800	TULPEHOCKEN C AT BERNVILLE PA.	402532	0760651	PA	011	STREAM	1972			5		7		GS
04	C	76526	01470850	LICKING C NR BERNVILLE PA	402403	0760344	PA	011	STREAM	1972			5		7		GS
04	C	76527	01470860	SPRING C NR BERNVILLE PA.	402324	0760440	PA	011	STREAM	1972			5		7		GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
04	C	76528	01470900	NORTHVILLE C AT BERNVILLE PA.	402542	0760652	PA	011	STREAM	1972			5		7		GS
04	C	69913	01470960	TULPEHOCKEN C AT BLUE MARSH DAM NR	402200	0760116	PA	011	STREAM	1968			3	6	7		GS
04	C	53996	01472000	SCHUYLKILL R AT POTTSTOWN PA	401430	0753905	PA	091	STREAM	1944	1973	*	*	*			GS
04	D	76423	01472054	PIGEON C NR BUCKTOWN, PA	401150	0754010	PA	029	STREAM	1969			7				GS
04	D	76424	01472065	PIGEON C NR PORTERS MILL, PA	401127	0753810	PA	029	STREAM	1969			7				GS
04	D	76455	01472080	PIGEON C NR PARKER FORD, PA	401201	0753711	PA	029	STREAM	1969			7				GS
04	D	76454	01472109	STONY RUN C NR SPRING CITY, PA	401011	0753445	PA	029	STREAM	1969			7				GS
04	D	76453	01472110	STONY RUN C NR SPRING CITY, PA	401000	0753256	PA	029	STREAM	1969			7				GS
04	D	76452	01472126	FRENCH C 1.6 MILES N OF TRYTHALL, P	401200	0754553	PA	029	STREAM	1969			7				GS
04	D	76451	01472129	FRENCH C NR KNAUERTOWN, PA	401109	0754528	PA	029	STREAM	1969			7				GS
04	D	76450	01472138	FRENCH C NR COVENTRYVILLE, PA	401014	0754150	PA	029	STREAM	1969			7				GS
04	D	76449	01472145	FRENCH C NR COVENTRYVILLE, PA	400917	0754251	PA	029	STREAM	1969			7				GS
04	D	76447	01472154	FRENCH C 1.9 MILES SE OF PUGHTOWN,	400914	0753825	PA	029	STREAM	1969			7				GS
04	C	69915	01472157	FRENCH C NR PHOENIXVILLE PA.	400905	0753606	PA	029	STREAM	1969			2				GS
04	D	76448	01472161	FRENCH C AT PHOENIXVILLE, PA	400808	0753041	PA	029	STREAM	1969			7				GS
04	D	76446	01472170	PICKERING C NR BYERS, PA	400439	0753914	PA	029	STREAM	1969			7				GS
04	D	76552	01472174	PICKERING C NR CHESTER SPRINGS PA	400522	0753750	PA	029	STREAM	1967			2				GS
04	C	76417	01472175	UNNAMED TR TO PICKERING C NR CHESTE	400607	0753932	PA	029	STREAM	1967	1968		2				GS
04	D	76400	01472176	PICKERING C TR AT CHESTER SPRINGS P	400630	0753738	PA	029	STREAM	1967	1968		2				GS
04	D	76401	01472181	PINE C AT SHARP FARM NR LYNVILLE PA	400340	0753828	PA	029	STREAM	1968	1968		2				GS
04	C	82103	01472183	PINE C AT CHESTER SPRINGS PA	400514	0753645	PA	029	STREAM	1967	1968		2				GS
04	D	76402	01472185	PICKERING C TR NR KIMBERTON PA	400649	0753618	PA	029	STREAM	1967	1968		2				GS
04	D	76425	01472186	PICKERING C NR MERLIN, PA	400625	0753534	PA	029	STREAM	1969			7				GS
04	D	76426	01472189	PICKERING C NR CHARLESTOWN PA	400557	0753320	PA	029	STREAM	1969			7				GS
04	D	76403	01472190	ROCK RUN AT CHARLESTOWN PA	400543	0753234	PA	029	STREAM	1967	1968		2				GS
04	D	80541	01472191	PICKERING C NR PHOENIXVILLE PA	400633	0753142	PA	029	STREAM	1967	1968		2				GS
04	D	76404	01472195	INDIAN C NR ZIONSVILLE PA	402732	0753120	PA	077	STREAM	1967	1967		2				GS
04	C	53997	01473000	PERKIOMEN C AT GRATERFORD PA	401346	5752707	PA	091	STREAM	1948			3	6			GS
04	C	69916	01473120	SKIPPACK C NR COLLEGEVILLE PA	400952	0752601	PA	091	STREAM	1969			3	6			GS
04	D	76443	01473167	LITTLE VALLEY C E NR HOWELLVILLE, P	400351	0752822	PA	029	STREAM	1969			7				GS
04	D	76428	01473168	VALLEY C NR HOWELLVILLE, PA	400408	0752825	PA	029	STREAM	1969			7				GS
04	D	69917	01473800	SCHUYLKILL RIVER AT MANAYUNK PHILA.	400141	0751344	PA	101	STREAM	1947			3	6	*		GS
04	D	53999	01473900	WISSAHICKON C AT FT WASHINGTON PA	400726	0751313	PA	091	STREAM	1963	1969	*	8	8			GS
04	D	54001	01473980	WISSAHICKON C AT LIVEZEY LAND PHILA	400259	0751252	PA	101	STREAM	1965	1969		2				GS
04	D	74425	01475020	MANTUA C AT SEWELL, N.J.	394622	0750810	NJ	015	STREAM	1970			5	7			GS
04	D	76530	01475300	DARBY C AT WATERLOO MILLS NR DEVON	400121	0752520	PA	029	STREAM	1969			7				GS
04	D	54004	01475510	DARBY C NR DARBY PA	395544	0751622	PA	045	STREAM	1965	1969		2		7		GS
04	D	54005	01475530	COBBS C AT US HWY 1 NR PHILA PA	395929	0751649	PA	101	STREAM	1965			2	7			GS
04	D	54006	01475540	COBBS C BL INDIAN C NR UPPER DARBY	395809	0751531	PA	101	STREAM	1965			2	7	7		GS
04	D	54007	01475550	COBBS C AT DARBY PA	395502	0751422	PA	045	STREAM	1965			2				GS

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04	D	76769	01475830	CRUM C. 2.6 MILES S OF PAOLI PA	400028	0752755	PA	029	STREAM	1969			7				GS
04	D	76429	01475840	CRUM C 3.4 MILES S OF PAOLI PA	395952	0752738	PA	029	STREAM	1969			7				GS
04	D	76430	01476430	RIDLEY C NR GOSHENVILLE PA	395926	0753238	PA	029	STREAM	1969			7				GS
04	D	76431	01476435	RIDLEY C NR DUTTON MILL, PA	395850	0753100	PA	029	STREAM	1969			7				GS
04	D	76432	01476790	CHESTER C 3.1 MILES N OF WEST CHEST	395949	0753540	PA	029	STREAM	1969			7				GS
04	D	76433	01476830	CHESTER C 3.2 MILES E OF WEST CHEST	395821	0753257	PA	029	STREAM	1969			7				GS
04	D	76434	01476835	CHESTER C 5.5 MILES SW OF WEST CHES	395621	0753228	PA	029	STREAM	1969			7				GS
04	D	76435	01476840	GOOSE C. 3.2 MILES SW OF WEST CHEST	395601	0753331	PA	029	STREAM	1969			5	7			GS
04	D	51183	01477120	RACCOON C NR SWEDESBORO, N.J.	394428	0751533	NJ	015	STREAM	1966			7				GS
04	D	76436	01478120	WHITE CLAY C NR AVONDALE PA	394939	0754652	PA	029	STREAM	1969			7				GS
04	D	76437	01478190	WHITE CHAY C 1.6 MILES S OF WEST GR	394744	0754927	PA	029	STREAM	1969			7				GS
04	D	76438	01478220	WHITE CLAY C 1.4 MILES SE OF CHESTE	394556	0754747	PA	029	STREAM	1969			7				GS
04	D	54261	01478500	WHITE CLAY C AB NEWARK DE	394250	0754535	DE	003	STREAM	1964	1971		*	*			GS
04	D	76439	01479780	WB RED CLAY C NR KENNETT SQ.PA	395013	0754333	PA	029	STREAM	1969			7				GS
04	D	76440	01479800	E BR RED CLAY C 2.6 MILES S OF KENN	394911	0754129	PA	029	STREAM	1969			7				GS
04	D	54012	01480300	WB BRANDYWINE C NR HONEY BROOK PA	400422	0755140	PA	029	STREAM	1965	1972		2	7	7		GS
04	D	76441	01480430	WB BRANDY WINE C NR WAGON TOWN PA	400017	0754931	PA	029	STREAM	1969			7				GS
04	D	76444	01480629	BUCK RUN C NR DOERUN, PA	395544	0754947	PA	029	STREAM	1969			7				GS
04	D	76445	01480632	DOE RUN C NR SPRING DELL, PA	395421	0754942	PA	029	STREAM	1969			7				GS
04	D	76405	01480640	W. BR. BRANDY WINE C WAWASET PA	395535	0753947	PA	029	STREAM	1965	1966		2		7		GS
04	D	76442	01480642	WB BRANDYWINE C 2.7 MILES SW OF WES	395530	0753949	PA	029	STREAM	1969			7				GS
04	D	76460	01480647	EB BRANDY WINE C NR CUPOLA, PA	400605	0755140	PA	029	STREAM	1969			7				GS
04	D	76461	01480648	EB BRANDYWINE C NR CUPOLA, PA	400538	0755113	PA	029	STREAM	1969			7				GS
04	D	80539	01480650	EB BRANDYWINE C AT CUPOLA PA	400555	0755044	PA	029	STREAM	1967	1968		2				GS
04	B	76419	01480652	E BR. BRANDY WINE C TRIB NR CUPOLA	400630	0754933	PA	029	STREAM	1967	1968		2				GS
04	B	76420	01480653	E B BRANDYWINE C AT GLENMOORE PA	400548	0754644	PA	029	STREAM	1967	1968		2				GS
04	D	76462	01480654	EB BRANDYWINE C NR GLENMOORE PA	400544	0754643	PA	029	STREAM	1969			7				GS
04	D	76406	01480655	INDIAN R AT LITTLE GERMAN RD NR HON	400426	0754901	PA	029	STREAM	1967	1968		2				GS
04	D	76463	01480656	INDIAN RUN C NR SPRINGTON, PA	400430	0754657	PA	029	STREAM	1969			7				GS
04	D	76407	01480658	INDIAN R NR GLENMOORE PA	400441	0754619	PA	029	STREAM	1967	1968		2				GS
04	B	76422	01480662	CULBERTSON R AT LYNDELL PA	400329	0754507	PA	029	STREAM	1967	1968		2				GS
04	B	76421	01480660	E B BRANDYWINE C AT LYNDELL PA	400334	0754440	PA	029	STREAM	1968	1968		2				GS
04	D	80540	01480665	EB BRANDYWINE C AT DORLAN PA	400308	0754328	PA	029	STREAM	1967	1968		2				GS
04	D	54014	01480680	MARSH C NR LYNDELL PA	400358	0754338	PA	029	STREAM	1965	1968		2				GS
04	D	54015	01480700	EB BRANDYWINE C NR DOWNINGTOWN PA	400205	0754232	PA	029	STREAM	1967			2				GS
04	D	84053	01480800	EB BRANDYWINE C AT DOWNINGTOWN PA	400020	0754220	PA	029	STREAM	1965	1966		2				GS
04	D	76456	01480903	VALLEY C W NR TALLOSE, PA	395831	0753948	PA	029	STREAM	1969			7				GS
04	D	76457	01480950	E. BR. BRANDY WINE C 2.5 MILES SW O	395527	0753856	PA	029	STREAM	1969			7				GS
04	D	54016	01481000	BRANDYWINE C AT CHADDS FORD PA	395211	0753537	PA	045	STREAM	1963		*	3	6	*		GS
04	D	54263	01481500	BRANDYWINE C AT WILMINGTON DE	394609	0753425	DE	003	STREAM	1946		*	3	6			GS

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NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
04	R	74210	T 9	BUOY R6	391100	0761648	MD	029	ESTARY	1968						5	EPA
04	R	74213	T 6	BUOY 12 OFF FAIRLER CREEK	391542	0761414	MD	029	ESTARY	1968						5	EPA
04	R	74215	T 4	OFF HILL POND BUOY 22	392048	0761024	MD	029	ESTARY	1968						5	EPA
04	R	76458	01494900	EB BIG ELK C 4.8 MILES E OF OXFORD,	394845	0755404	PA	029	STREAM	1969			7				GS
04	R	76459	01494950	WB BIG ELK C 3.1 MILES SE OF OXFORD	394645	0755527	PA	029	STREAM	1969			7				GS
04	M	54079	01500500	SUSQUEHANNA R AT UNADILLA NY	421917	0751901	NY	077	STREAM	1963		*	*				GS
04	M	54080	01501000	UNADILLA R NR NEW BERLIN NY	423837	0751924	NY	017	STREAM	1965	1968		4				GS
04	M	54081	01502500	UNADILLA R AT ROCKDALE NY	422240	0752423	NY	017	STREAM	1956	1968		7	7			GS
04	M	54082	01503000	SUSQUEHANNA R AT CONKLIN NY	420207	0754812	NY	007	STREAM	1954			*	*			GS
04	F	54083	01507000	CHENANGO R AT GREENE NY	421930	0754615	NY	017	STREAM	1956	1968		7				GS
04	M	54087	01514000	OWEGO C NR OWEGO NY	420740	0761617	NY	107	STREAM	1962	1968		*				GS
04	M	54088	01515000	SUSQUEHANNA R NR WAVERLY NY	415905	0763005	PA	015	STREAM	1962	1967		7				GS
04	G	54017	01516500	COREY C NR MAINESBURG PA	414727	0770054	PA	117	STREAM	1954	1967		2	6			GS
04	G	54018	01517000	ELK RN NR MAINESBURG PA	414854	0765755	PA	117	STREAM	1954	1967		2	6			GS
04	G	76604	01518000	TIOGA R AT TIOGA PA	415430	0770747	PA	117	STREAM	1956	1972		2	7	7		GS
04	G	54020	01518500	CROOKED C AT TIOGA PA	415408	0770855	PA	117	STREAM	1962	1972		2	7			GS
04	G	54089	01520500	TIOGA R AT LINDLEY NY	420144	0770757	NY	101	STREAM	1964	1968		7	7			GS
04	G	54090	01525500	CANISTEO R AT WEST CAMERON NY	421320	0772505	NY	101	STREAM	1956	1968		4				GS
04	G	54091	01526500	TIOGA R NR ERWINS NY	420715	0770745	NY	101	STREAM	1962	1967		7				GS
04	H	54093	01529500	COHOCTON R NR CAMPBELL NY	421510	0771300	NY	101	STREAM	1955	1967		7				GS
04	H	54095	01531000	CHEMUNG R AT CHEMUNG NY	420008	0763806	NY	015	STREAM	1953	1968		7				GS
04	M	54021	01531500	SUSQUEHANNA R AT TOWANDA PA	414555	0762628	PA	015	STREAM	1951	1969		2	6			GS
04	M	76608	01532000	TOWANDA C NR MONROETON PA	414227	0762820	PA	015	STREAM	1963	1969		2				GS
04	M	54023	01536000	LACKAWANNA R AT OLD FORGE PA	412133	0754441	PA	069	STREAM	1948	1972	*	2	7			GS
04	M	54024	01539000	FISHING C NR BLOOMSBURG PA	410441	0762553	PA	037	STREAM	1957	1969		2	6			GS
04	M	76670	01539200	APPLEMANS RN AB LIGHT STREET, PA.	410153	0762513	PA	037	STREAM	1971			2	6			GS
04	M	76671	01539210	APPLEMANS RN BL LIGHT STREET, PA	410155	0762539	PA	037	STREAM	1971			2	6			GS
04	M	54025	01540500	SUSQUEHANNA R AT DANVILLE PA	405729	0763710	PA	093	STREAM	1945		*	2	6			GS
04	L	54026	01541000	WB SUSQUEHANNA R AT BOWER PA	405349	0784038	PA	033	STREAM	1959	1967		2	6			GS
04	I	54027	01543000	DRIFTWOOD B SINNEMAHONING C AT STER	412448	0781150	PA	023	STREAM	1963	1967		2	6	7		GS
04	I	54028	01543500	SINNEMAHONING C AT SINNEMAHONING PA	411902	0780612	PA	023	STREAM	1960	1972		2				GS
04	I	76618	01544000	FIRST F SINNEMAHONING C NR SINNEMAH	412406	0780128	PA	023	STREAM	1971			3	6			GS
04	L	76619	01544450	GERMANIA B AT GERMANIA PA	413849	0773922	PA	105	STREAM	1966	1969		2				GS
04	L	69945	01545500	WB SUSQUEHANNA R AT RENOVO PA	411928	0774503	PA	035	STREAM	1962			2				GS
04	L	69946	01545600	YOUNG WOMANS C NR RENOVO PA	412322	0774128	PA	035	STREAM	1965			5	*	*		GS
04	J	54030	01546500	SPRING C NR AXEMANN PA	405323	0774740	PA	027	STREAM	1964	1970		2	6	7		GS
04	J	54031	01547500	BALD EAGLE C AT BLANCHARD PA	410306	0773617	PA	027	STREAM	1955			2	6			GS
04	J	76623	01547700	MARSH C AT BLANCHARD PA	410334	0773622	PA	027	STREAM	1956	1967		2	7	7		GS
04	K	76624	01548500	PINE C AT CEDAR RUN PA	411318	0772652	PA	081	STREAM	1959	1970		2				GS
04	K	76674	01549100	BLOCKHOUSE C TR AT LIBERTY PA	413404	0770606	PA	117	STREAM	1972			2	6			GS

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NUMBER	LETTER									BEGAN	DISCON- TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
04	K	76675	01549300	BLOCKHOUSE C AT BUTTONWOOD, PA	412943	0770902	PA	081	STREAM	1972			2	6			GS
04	K	76676	01549350	STEAM VALLEY RN AT BUTTONWOOD PA	412939	0770903	PA	081	STREAM	1972			2	6			GS
04	K	76625	01549500	BLOCKHOUSE C NR ENGLISH CENTER PA	412825	0771352	PA	081	STREAM	1972			2	6			GS
04	L	76626	01550000	LYCOMING C NR TROUT RUN PA	412506	0770159	PA	081	STREAM	1957	1969		2				GS
04	L	69956	01552000	LOYALSOCK C AT LOYALSOCK PA	411926	0765442	PA	081	STREAM	1959	1969		2				GS
04	L	76636	01553115	W B SUSQUEHANNA R AT WATSONTOWN, PA	765150	0410453	PA	097	STREAM	1972			3	6			GS
04	G	69958	01553170	WARRIOR R AT MC EWENS VILLE PA	410428	0765001	PA	097	STREAM	1970	1971		2	6			GS
04	L	69960	01553500	WB SUSQUEHANNA R AT LEWISBURG PA	405805	0765225	PA	119	STREAM	1944			2	7			GS
04	Q	54032	01554500	SHAMOKIN C NR SHAMOKIN PA	404837	0763504	PA	097	STREAM	1949	1967	*	2	6			GS
04	Q	54034	01555000	PENNS C AT PENNS CREEK PA	405200	0770255	PA	109	STREAM	1964			2	7	7		GS
04	Q	54035	01555500	E MAHANTANGO C NR DALMATTA PA	403640	0765444	PA	097	STREAM	1962	1969	*	2	7	7		GS
04	P	54036	01559000	JUNIATA R AT HUNTINGDON PA	402935	0780109	PA	061	STREAM	1959	1972	*	2	6	7		GS
04	O	54037	01560000	DUNNING C AT BELDEN PA	400418	0782934	PA	009	STREAM	1962	1969		2	7	7		GS
04	O	54038	01562000	RAYSTOWN B JUNIATA R AT SAXTON PA	401257	0781556	PA	009	STREAM	1957	1969		2	7	7		GS
04	P	76576	01564500	AUGHWICK C NR THREE SPRINGS PA	401245	0775532	PA	061	STREAM	1966	1969		2				GS
04	P	54040	01565000	KISHACOQUILLAS C AT REEDSVILLE PA	403917	0773500	PA	087	STREAM	1962	1966		2	7	7		GS
04	P	69968	01567000	JUNIATA R AT NEWPORT PA	402842	0770746	PA	099	STREAM	1944			3	6			GS
04	P	69969	01567500	BIXLER RN NR LOYSVILLE PA	402215	0772409	PA	099	STREAM	1954	1970		2	6			GS
04	P	54043	01568000	SHERMAN C AT SHERMANS DALE PA	401924	0771009	PA	099	STREAM	1957	1969		2	7	7		GS
04	Q	65570	01570000	CONODOGUINET C NR HODGESTOWN PA	401508	0770117	PA	041	STREAM	1957			2		*		GS
04	Q	69971	01570100	CONODOGUINET C TR NO 1 NR ENOLA PA	401727	0765938	PA	041	STREAM	1969			3	6			GS
04	O	69972	01570200	CONODOGUINET CR. TRIB. NO. 2 NR ENO	401721	0765835	PA	041	STREAM	1969			3	6			GS
04	O	69973	01570230	CONODOGUINET CR. TRIB. NO. 2A NR EN	401744	0765755	PA	041	STREAM	1969			3	6			GS
04	Q	69974	01570260	CONODOGUINET CR. TRIB. NO. 2B NR EN	401747	0765751	PA	041	STREAM	1969			3	6			GS
04	O	69975	01570300	CONODOGUINET C TRIB NO 3 NR ENOLA	401805	0765657	PA	041	STREAM	1969			3	6			GS
04	Q	54044	01570500	SUSQUEHANNA R AT HARRISBURG PA	401510	0765227	PA	043	STREAM	1944		*	4	7			GS
04	Q	54045	01571500	YELLOW BREECHES C NR CAMP HILL PA	401329	0765354	PA	041	STREAM	1957	1968		2	7			GS
04	Q	69983	01573890	NF LATIMORE C TR NR YORK SPRINGS	400204	0770833	PA	001	STREAM	1970			8	8			GS
04	O	54046	01574000	W CONEWAGO C NR MANCHESTER PA	400456	0764313	PA	133	STREAM	1957	1969		2	7			GS
04	Q	54047	01575000	SB CODORUS C NR YORK PA	395514	0764457	PA	133	STREAM	1966	1968		2	6			GS
04	Q	54048	01576500	CONESTOGA C AT LANCASTER PA	400300	0761639	PA	071	STREAM	1958	1972	*	2	6			GS
04	Q	69986	01577500	MUDDY C NR CASTLE FIN PA	394621	0761858	PA	133	STREAM	1959	1970		2				GS
04	D	76637	01578340	OCTORARO C NR ATGLEN PA	395652	0755926	PA	029	STREAM	1969			7				GS
04	D	80891	01578343	VALLEY C NR ATGLEN PA	395617	0755906	PA	029	STREAM	1969			7				GS
04	P	76638	01578345	OCTORARO C NR STEELVILLE PA	395444	0755944	PA	029	STREAM	1969			7				GS
04	R	54267	01583575	BAISMAN RN AT. SHAWAN MD	392907	0764213	MD	005	STREAM	1963	1969		1	8			GS
04	R	54266	01583580	BAISMAN RN AT BROADMOOR MD	392845	0764042	MD	005	STREAM	1963	1969		1	8			GS
04	R	56990		LIBERTY RESERVOIR	392236	0765324	MD	005	RESER	1955			5				D52
05	D	54247	01595500	NB POTOMAC R AT KITZMILLER MD	392338	0791055	MD	023	STREAM	1959			*	*			GS
05	D	67921	01599000	GEORGES C AT FRANKLIN MD	392938	0790242	MD	001	STREAM	1959	1972		*	*			GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON- TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
05	D	67922	01600000	N B POTOMAC R AT PINTO MD	393359	0785025	WV	057	STREAM	1959			*	*			GS
05	I	54249	01603000	N B POTOMAC R NR CUMBERLAND MD	393716	0784624	MD	001	STREAM	1963			3	6			GS
05	E	54271	01606500	SB POTCMAC R NR PETERSBURG WV	385934	0791026	WV	023	STREAM	1947			5				GS
05	I	84046	01610000	POTCMAC R AT PAW PAW W VA	393213	0782728	MD	001	STREAM	1959	1969		*	*			GS
05	I	64162	01611500	CACAPON R NR GREAT CACAPON WV	393443	0781834	WV	065	STREAM	1968			5				GS
05	I	54251	01614500	CCNOCOCHEAGUE C AT FAIRVIEW MD	394257	0774928	MD	043	STREAM	1948		*	3	7			GS
05	I	67923	01619000	ANTIETAM C NR WAYNESBORO PA	394259	0773628	MD	043	STREAM	1959			*	*			GS
05	I	54252	01619500	ANTIETAM C NR SHARPSBURG MD	392701	0774352	MD	043	STREAM	1959			*	*			GS
05	G	62932	01631000	SF SHENANDOAH R AT FRONT ROYAL VA	385450	0781240	VA	187	STREAM	1948		*	3	7			GS
05	K	54253	01638500	POTOMAC R AT POINT OF ROCKS MD	391625	0773235	MD	021	STREAM	1959			3	6			GS
05	J	67924	01639000	MONOCACY R AT BRIDGEPORT MD	394043	0771406	MD	021	STREAM	1948	1972		*	*			GS
05	J	54254	01643020	MONOCACY R AT REICH'S FORD B NR FRE	392316	0772240	MD	021	STREAM	1960			3	6			GS
05	K	73004	01644290	STAVE RN AT RESTON VA	385657	0772218	VA	059	STREAM	1962	1971		2				GS
05	K	82841	01644291	STAVE RUN NR RESTON VA	385656	0772216	VA	059	STREAM	1971			2				GS
05	K	73005	01644295	SMILAX B AT RESTON VA	385710	0772204	VA	059	STREAM	1967			2				GS
05	K	54255	01645000	SENECA C AT DAWSONVILLE MD	390741	0772010	MD	031	STREAM	1951			*	*			GS
05	K	54256	01645200	WATTS B AT ROCKVILLE MD	390503	0771038	MD	031	STREAM	1957	1967		*	*			GS
05	K	81646	01645500	POTCMAC R AT GREAT FALLS MD	390003	0771456	MD	031	STREAM	1973			5	5			GS
05	K	82233	01645784	SNAKEDEN B AT RESTON VA	385548	0772043	VA	059	STREAM	1973			2	2			GS
05	K	56646	01647685	WILLIAMSBURG RN NR OLNEY MD	393832	0770548	MD	031	STREAM	1966	1974		2	6			GS
05	K	56645	01647720	NB ROCK C NR NORBECK MD	390659	0770609	MD	031	STREAM	1966			2	6			GS
05	K	56647	01647725	MANOR RN NR NORBECK MD	390636	0770600	MD	031	STREAM	1966	1974		2	6			GS
05	K	65481	01647740	NB ROCK C NR ROCKVILLE MD	390609	0770712	MD	031	STREAM	1967			3	6			GS
05	K	67926	01649500	NE B ANACOSTIA R AT RIVERDALE MD	385737	0765534	MD	033	STREAM	1959			*	*			GS
05	K	56648	01650050	NW B ANACOSTIA R AT NORWOOD MD	390736	0770115	MD	031	STREAM	1966	1974		2	6			GS
05	K	56649	01650085	NURSERY RN AT CLOVERLY MD	390705	0770024	MD	031	STREAM	1966	1974		2	6			GS
05	K	56650	01650190	BATCHELLORS RN AT OAKDALE MD	390721	0770337	MD	031	STREAM	1966	1974		2	6			GS
05	K	54259	01650500	NW B ANACOSTIA R NR COLESVILLE MD	390355	0770148	MD	031	STREAM	1961			3	6			GS
05	K	54257	01650450	BEL PRE C AT LAYHILL MD	390527	0770311	MD	031	STREAM	1962			2	6			GS
05	K	54258	01650470	LUTES RN AT LUTES MD	390424	0770308	MD	031	STREAM	1962	1974		2	6			GS
05	K	67927	01651000	NW B ANACOSTIA R NR HYATTSVILLE MD	385709	0765800	MD	033	STREAM	1960			*	*			GS
05	K	82842	01656100	CEDAR RN NR ADEN VA	383658	0773316	VA	153	STREAM	1973			*				GS
05	K	82840	01656725	BULL RN NR CATHARPIN VA	385321	0773414	VA	153	STREAM	1973			*				GS
05	K	82843	01656960	CUB RN NR BULL RN VA	384916	0772757	VA	059	STREAM	1973			*				GS
05	K	82845	01657415	BULL RN NR CLIFTON VA	384601	0772454	VA	059	STREAM	1973			*				GS
05	L	50217	01664000	RAPPAHANNOCK R AT REMINGTON VA	383150	0774850	VA	061	STREAM	1951			3	7			GS
05	S	62936	02035000	JAMES R AT CARTERSVILLE VA	374015	0780510	VA	075	STREAM	1929		*	4				GS
05	U	82144	02038700	JAMES R NR DUTCH GAP VA	372326	0772149	VA	087	ESTARY	1974			4				GS
02	Q	56824	04282500	OTTER C AT MIDDLEBURY VT	440047	0731006	VT	001	STREAM	1967			6				GS
02	R	65483	04288000	MAD R NR MORETOWN VT	441642	0724437	VT	023	STREAM	1967			5				GS
02	S	56825	04292500	LAMOILLE R AT EAST GEORGIA VT	444045	0730423	VT	011	STREAM	1967			5				GS
02	T	56826	04293500	MISSISQUOI R NR RICHFORD VT	445730	0724155	VT	011	STREAM	1967			5				GS

MAP													STORAGE OF DATA				
NUMBER	LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD BEGAN	PERIOD OF RECORD DISCONTINUED	INTERRUPTED RECORD	PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN: 02																	
TOTAL:		202															

SOUTH ATLANTIC-GULF 03

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
06	F	75885	02054500	ROANOKE R AT LAFAYETTE VA	371411	0801234	VA	121	STREAM	1945			4				GS
06	F	50218	02066000	ROANOKE (STAUNTON) R AT RANDOLPH VA	365454	0784428	VA	083	STREAM	1929			3				GS
06	E	54558		PHILPOTT RE VA	364650	0800140	VA	089	RESER	1951				8		8	CE
06	E	50219	02075500	DAN R AT PACES VA	363832	0790523	VA	083	STREAM	1954			3				GS
05	E	52121	02077200	HYCO C NR LEASBURG NC	362407	0791213	NC	033	STREAM	1959		*	7	7			GS
06	E	52123	02077240	DOUBLE C NR ROSEVILLE NC	362144	0790548	NC	145	STREAM	1964		*	7	7			GS
06	E	56682	02077250	S HYCO C NR ROSEVILLE NC	363102	0790142	NC	145	STREAM	1966		*	7	7			GS
06	E	52124	02077300	HYCO R AT MCGEHEES MILL NC	363102	0790142	NC	145	STREAM	1964	1973	*	7	7			GS
06	F	54557		JOHN H KERR RE VA	363556	0781806	VA	117	RESER	1950				8		8	CE
06	G	52130	02081000	ROANOKE R NR SCOTLAND NECK NC	361233	0771302	NC	083	STREAM	1944		*	5	5			GS
06	J	52138	02081500	TAR R NR TAR R NC	361141	0783500	NC	077	STREAM	1955		*	7	7			GS
06	J	52143	02081800	CEDAR C NR LOUISBURG NC	360314	0782034	NC	069	STREAM	1954		*	7	7			GS
06	J	52144	02082000	TAR R NR NASHVILLE N C	355100	0775550	NC	127	STREAM	1955	1970	*	8	8			GS
06	J	52148	02082770	SWIFT C AT HILLIARDSTON NC	360642	0775516	NC	127	STREAM	1963		*	7	7			GS
06	I	52153	02082950	LITTLE FISHING C NR WHITE OAK NC	361108	0775234	NC	083	STREAM	1960		*	7	7			GS
06	J	52159	02083500	TAR R AT TARBORO NC	355338	0773200	NC	065	STREAM	1944		*	5	5			GS
06	K	52173	02085070	ENO R NR DURHAM NC	360418	0785433	NC	063	STREAM	1962		*	7	7			GS
06	K	52176	02085220	LITTLE R NR ORANGE FACTORY NC	360820	0785424	NC	063	STREAM	1954		*	7	7			GS
06	K	52179	02085500	FLAT R AT BAHAMA	361057	0785244	NC	063	STREAM	1954		*	7	7			GS
06	K	52183	02087000	NEUSE R NR NORTHSIDE NC	360254	0784459	NC	063	STREAM	1954			7	7			GS
06	K	82180	02087183	NEUSE R NR FALLS NC	355624	0783432	NC	183	STREAM	1972			7	7			GS
06	K	52188	02087500	NEUSE R. NR CLAYTON NC	353850	0782421	NC	103	STREAM	1943		*	5	5			GS
06	K	52189	02087570	NEUSE R AT SMITHFIELD NC	353046	0782100	NC	101	STREAM	1954			7	7			GS
06	K	52193	02088470	LITTLE R NR KENLY NC	353518	0781112	NC	101	STREAM	1965		*	7	7			GS
06	K	52195	02088500	LITTLE R NR PRINCETON NC	353040	0780936	NC	101	STREAM	1950		*	7	7			GS
06	M	56699	02089000	NEUSE R NR GOLDSBORO NC	352014	0775951	NC	191	STREAM	1948		*	7	7			GS
06	M	52198	02089500	NEUSE R AT KINSTON NC	351530	0773510	NC	107	STREAM	1949			5	5			GS
06	L	52204	02090380	CONTENTNEA C NR LUCAMA NC	354129	0780629	NC	195	STREAM	1965		*	7	7			GS
06	L	81084	02090625	TURNER SWAMP NR EUREKA NC	353410	775240	NC	191	STREAM	1973			5	5			GS
06	L	52209	02091000	NAHUNTA SWAMP NR SHINE NC	352920	0774822	NC	079	STREAM	1955		*	7	7			GS
06	M	75198	02091960	CREEPING SWAMP NR CALICO NC	352542	0771112	NC	013	STREAM	1971			5	5			GS
06	M	75197	02091970	CREEPING SWAMP NR VANCEBORO NC	352330	0771346	NC	049	STREAM	1971			5				GS
06	O	52236	02096500	HAW R AT HAW RIVER NC	360513	0792202	NC	001	STREAM	1955		*	7	7			GS
06	O	52241	02096850	CANE C NR TEER NC	355634	0791446	NC	135	STREAM	1959	1973	*	7	7			GS
06	O	52243	02097000	HAW R NR PITTSBORO NC	354207	0790512	NC	037	STREAM	1954	1973	*	7	7			GS
06	O	52248	02098000	NEW HOPE R NR PITTSBORO NC	354412	0790136	NC	037	STREAM	1953	1973	*	7	7			GS
06	O	52250	02098200	HAW R NR HAYWOOD NC	3539	07904	NC	037	STREAM	1966		*	5	5			GS
06	P	52260	02102000	DEEP R AT MONCURE NC	353741	0790648	NC	105	STREAM	1943		*	7	7			GS
06	S	52264	02102500	CAPE FEAR R AT LILLINGTON NC	352430	0784848	NC	085	STREAM	1944		*	5	5			GS
06	S	52268	02103500	LITTLE R AT LINDEN N C	351546	0784635	NC	085	STREAM	1955		*	8	8			GS

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NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
06	S	85484	02105769	CAPE FEAR R AT LOCK 1 NR KELLY NC	342415	0781738	NC	017	STREAM	1973			5	5			GS
07	C	52337	02116500	YADKIN R AT YADKIN COLLEGE NC	355124	0802310	NC	057	STREAM	1943		*	3	5	7		GS
07	C	81085	02117030	HUMPY C NR [illegible] NC	355117	0802624	NC	059	STREAM	1973	1974		5	5			GS
07	B	52344	02118C00	SOUTH YADKIN R NR MOCKSVILLE NC	355039	0803938	NC	159	STREAM	1953			*	*			GS
07	B	52346	02119400	THIRD C SUBWATERSHED NO 7A NR STONY	355139	0810329	NC	003	STREAM	1956	1969		5	5			GS
07	I	54435	02131000	PEE DEE R AT PEEDEE SC	341215	0793255	SC	067	STREAM	1948	1973	*	3				GS
07	E	53462	02132000	LYNCHES R AT EFFINGHAM SC	340305	0794515	SC	009	STREAM	1951		*	5	5			GS
07	H	70319	02135300	SCAPE ORE SWAMP NR BISHOPVILLE SC	340902	0801818	SC	061	STREAM	1970		*	5				GS
07	H	53468	02136000	BLACK R AT KINGSTREE SC	333940	0795010	SC	089	STREAM	1962			5	5			GS
07	J	52398	02143040	JACOB F AT RAMSEY NC	353526	0813402	NC	023	STREAM	1961			5	5			GS
07	K	67633	02146800	SUGAR C NR FORT MILL SC	350021	0805409	NC	091	STREAM	1969			5	5			GS
07	Q	56346	02169800	SANTEE R NR FORT MOTTE S C	3345	08037	SC	017	STREAM	1966	1968		4				GS
07	S	53523	02170500	LAKES MARION-MOULTRIE DIV CA NR PIN	332315	0800825	SC	015	CANAL	1971		*	5	5			GS
07	Q	53524	02171500	SANTEE R NR PINEVILLE SC	332715	0800925	SC	015	STREAM	1951			5	5			GS
07	S	56348	02172001	LK MOULTRIE TAILRACE NR MONCKS CORN	331250	0795840	SC	015	CANAL	1950	1972		3				GS
07	W	53536	02175000	EDISTO R NR GIVHANS SC	330140	0802330	SC	035	STREAM	1967			5	5			GS
07	X	53542	02176500	COOSAWATCHIE R NR HAMPTON, SC	325010	0810755	SC	049	STREAM	1972			5	5			GS
08	A	67013	02177000	CHATTOOGA R NR CLAYTON GA	344850	0831822	GA	077	STREAM	1957			6				GS
08	D	63006	H DISCH	HARTWELL RE DISCHARGE GA	342125	0824920	GA	147	STREAM	1963		*	4				CE
08	C	51015	02190200	NF BROAD R SWS NO 14 NR AVALON GA	3430	08313	GA	257	RESER	1955	1969		8				GS
08	C	67019	02192000	BROAD R NR BELL GA	335827	0824612	GA	105	STREAM	1957			6	*			GS
08	C	63035	C BROAD 79	CLARK HILL RE BROAD R HWY 79 GA	3359	08238	GA	181	RESER	1955		*	8				CE
08	D	62998	C01	CLARK HILL RE LOC 1 GA	3340	08213	GA	073	RESER	1952		*	8				CE
08	G	62527		CLARK HILL RE	333956	0821215	SC	065	RESER	1966	1969		5			5	ERD
08	D	62997	C DISCH	CLARK HILL RE DISCHARGE SC	3340	08212	SC	065	STREAM	1953			4				CE
08	G	53562	02197300	UPPER THREE RUNS NR NEW ELLENTON SC	332305	0813700	SC	003	STREAM	1967			5				GS
08	G	62995	S61	CLYO SAVANNAH R AT R MILE 61 GA	323130	0811545	GA	103	STREAM	1949			8				CE
08	G	53564	02198500	SAVANNAH R NR CLYO GA	323130	0811545	SC	053	STREAM	1965			5	5			GS
08	G	65370	S 21.6 US 17	SAVANNAH R AT R MILE 21.6 GA	320955	0810922	GA	051	ESTARY	1968			8	8	8		CE
08	G	73002	S 20 SAV HBR	SAVANNAH R AT R MILE 20 GA	320858	0810845	GA	051	ESTARY	1970			8	8	8		CE
08	J	67025	02202500	OGEECHEE R NR EDEN GA	321129	0812458	GA	103	STREAM	1937			6				GS
08	M	73006	02208450	ALCOVY R AB COVINGTON GA	333824	0834645	GA	217	STREAM	1972			6				GS
08	M	51017	02212600	FALLING C NR JULIETTE GA	330559	0834325	GA	169	STREAM	1964			5				GS
08	N	67033	02217500	M OCONEE R NR ATHENS GA	335648	0832522	GA	059	STREAM	1956			6				GS
08	O	51018	02226000	ALTAMAHA R AT DOCTORTOWN GA	313916	0814941	GA	305	STREAM	1937			6				GS
09	B	67042	02228000	SATILLA R AT ATKINSON GA	311316	0815203	GA	025	STREAM	1959			6	*			GS
09	C	53106	02231000	ST MARYS R NR MACCLENNY FL	302131	0820454	FL	003	STREAM	1956		*	5				GS
09	G	63929	02244450	ST JOHNS R AT PALATKA FL	293848	0813732	FL	107	ESTARY	1962			5				GS
10	B	82663	02273340	KISSIMMEE R BL CA 41A NR OKEECHOBEE	271238	0805546	FL	055	STREAM	1973			5			6	GS
10	C	82958	264100080210000	W PALM BEACH CA 1 MI E OF S5AE LOXA	264100	0802100	FL	099	CANAL	1972			6				GS

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10	C	61795	02281200	HILLSBORO CA AT S6 NR SHAWANO FL	262825	0802655	FL	099	CANAL	1957			6				GS
10	C	69663	02281295	EVERGLADES NO 1-15 NR DELRAY BEACH			FL	099	DRAIN	1972			6				GS
10	C	53158	02281300	HILLSBCRO CA AT S-39 NR DEERFIELD B	262120	0801758	FL	099	CANAL	1952			6				GS
10	C	82926	261938080124900	HILLSBCRO CA NR DEERFIELD BEACH AT	261938	0801249	FL	099	CANAL	1970			6				GS
10	C	82940	262400080230000	HILLSBORO CA AB S10 DELRAY BEACH FL	262400	0802300	FL	099	CANAL	1972			6				GS
10	C	61796	02281700	POMPANO CA AT S-38 NR POMPANO BEACH	261345	0801750	FL	099	CANAL	1962			6				GS
10	C	84066	261349080121700	POMPANO CA AT SR7 BRIDGE AT MARGATE	261349	0801217	FL	099	CANAL	1969			6				GS
10	C	61797	02282000	POMPANO CA AT POMPANO BEACH FL	261351	0800728	FL	099	CANAL	1970			6				GS
10	C	82962	261348080C71600	PONPANO CA BL CITY DAPOMPANO FL	261348	0800716	FL	011	CANAL	1969			6				GS
10	C	82927	261034080093500	PROSP FEEDER CA AT OAKLAND PARK FL	261034	0800935	FL	011	CANAL	1970			6				GS
10	C	82944	260919080172300	MIDDLE R CA AT C42 AT LAUDERHILL FL	260919	0801723	FL	011	CANAL	1970			6				GS
10	C	82941	261030080131400	MIDDLE R CA AT ROCK ISL BR AT LAUDE	261030	0801314	FL	011	CANAL	1970			6				GS
10	C	84064	260808080132800	PLANTATION CA AT NW 47 AVE BRIDGE P	260808	0801328	FL	011	CANAL	1971					6	6	GS
10	C	83126	260807080132800	PLANTATION CA AT SUNRISE BLVD LAUDE	260807	0801328	FL	011	CANAL	1971					6	6	GS
10	C	82934	260807080141200	PLANTATION CA AT NW 65TH AVE AT PLA	260807	0801412	FL	011	CANAL	1970			6				GS
10	C	84063	260807080121400	PLANTATION CA AT HWY 441 PLANTATION	260807	0801214	FL	011	CANAL	1971					6	6	GS
10	C	82917	02284501	N NEW R CA BL S11C NR FT LAUDERDALE	261348	0802735	FL	011	CANAL	1972			6				GS
10	C	82928	260945080533000	L 28 INTERCEPTOR .5 MI BL SR84 ANDY	260945	0805330	FL	011	CANAL	1972			6				GS
10	C	70385	02284642	EVERGLADES NO 2-17 NR ANDYTOWN FL	261650	0802510	FL	099	DRAIN	1972			6				GS
10	C	82950	261057080442600	CORPS OF ENG GAGE 3-2 NR ANDYTOWN F	261057	0804426	FL	011	DRAIN	1972			6				GS
10	C	82952	261240080494000	L 28 BURROW CA BL S140 NR ANDYTOWN	261240	0804940	FL	011	CANAL	1972			6				GS
10	C	82963	262000080320500	N NEW R CA AB S7 ANDYTOWN FL	262000	0803205	FL	099	CANAL	1972			6				GS
10	C	82965	261945080530000	L 4 CA 7 MI W OF S8 NR ANDYTOWN FL	261945	0805300	FL	099	CANAL	1972			6				GS
10	C	69668	02284700	N NEW R CA AT S-34 NR FT LAUDERDALE	260843	0802625	FL	011	CANAL	1970		*	6				GS
10	C	82936	260717C80094700	N F NEW R AT BROWARD BLVD FT LAUDER	260717	0800947	FL	011	CANAL	1971					6	6	GS
10	C	82964	260743080103100	N F NEW R AT NW 6TH ST BR AT FT LAU	260743	0801031	FL	011	STREAM	1970			6				GS
10	C	82949	260850080381000	MIAMI CA AT ALLIGATOR ALLEY MIAMI F	253850	0803810	FL	011	CANAL	1972			6				GS
10	C	82959	260702080085800	N NEW R AT SW 4 AND 7 AVE BR AT FT	260702	0800858	FL	011	STREAM	1970			6				GS
10	C	82957	260514080110800	N NEW R CA AT BRADFRD MARINA NR FT	260514	0801108	FL	011	CANAL	1970			6				GS
10	C	61800	02285400	S NEW R CA AT S-9 NR DAVIE FL	260340	0802630	FL	011	CANAL	1957			6				GS
10	C	82924	02285900	S NEW R CA AB S13A NR DAVIE FL	260351	0801651	FL	011	CANAL	1970			6				GS
10	C	82929	260333080084300	DANIA CUTOFF CA AT DAN FL 100 YDS W	260333	0800843	FL	011	CANAL	1970			6				GS
10	C	53171	02286150	HOLLYWOOD CA AT DAVIE FL	260313	0800919	FL	011	CANAL	1962			6				GS
10	C	82960	260031080145300	DAVIE RD CA AT HOLLYWD BLD AT PEMBR	260031	0801453	FL	011	CANAL	1970			6				GS
10	C	82961	255741080154500	SNAKE C CA AT NW 37 AVENUE MIAMI FL	255741	0801545	FL	025	CANAL	1971			6				GS
10	C	82935	255600080484500	L28 CA AT SEND 12 MI N OF US 41 MI	255600	0804845	FL	025	CANAL	1972			6				GS
10	C	61805	02286700	MIAMI CA AT S8 NR LAKE HARBOR FL	261945	0804620	FL	099	CANAL	1962			6				GS
10	C	82795	02288500	MIAMI CA AT WATERPLANT HIALEAH FL	254398	0801715	FL	025	CANAL	1971			6				GS
10	C	82947	25454208C493000	TAMIAMI CA AB S12A NR MIAMI FL	254542	0804930	FL	025	CANAL	1972			6				GS
10	C	82938	254620080395000	L67A 0.5 MT N OF TAMIAMI CA MIAMI F	254620	0803950	FL	025	CANAL	1972			6				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
10	C	82922	02289043	EVERGLADES NO 3-28 NR PENNSUCO FL			FL	025	DRAIN	1972			6				GS
10	C	82920	261335081352400	GOLDEN GATE TR CA AT GOLDEN GATE BL	261335	0813524	FL	021	CANAL	1970			6				GS
10	C	82948	261147081470400	GORDON R CA AT NAPLES FL	261147	0814704	FL	021	CANAL	1970			6				GS
10	F	77430	93	S W CHANNEL BELL 5 TAMPA BAY	273448	0824442	FL	057	ESTARY	1972						6	E21
10	F	77431	92	TAMPA BAY BUOY R70	273430	0824112	FL	081	ESTARY	1972						6	E21
10	F	77432	95	MULLET KEY CHANNEL R14 TAMPA BAY	273630	0824142	FL	057	ESTARY	1972						6	E21
10	F	77433	24	TAMPA BAY SKYWAY MANATEE BRIDGE	273512	0823705	FL	081	ESTARY	1971						6	E21
10	F	77434	91	TAMPA BAY BUOY R4A	273730	0823824	FL	057	ESTARY	1972						6	E21
10	F	77435	90	TAMPA BAY AT RANGE MARKER A	273724	0823542	FL	057	ESTARY	1972						6	E21
10	F	77436	21	TAMPA BAY PINEY PT	273936	0823403	FL	057	ESTARY	1971						6	E21
10	F	77437	19	TAMPA BAY D MARKERS	274130	0823320	FL	057	ESTARY	1971						6	E21
10	F	77438	925	TAMPA BAY COCKROACH BAY	274110	0823115	FL	057	ESTARY	1973						6	E21
10	F	77441	84	TAMPA BAY BAHIA BEACH	274342	0822954	FL	057	ESTARY	1972						6	E21
10	F	77442	81	TAMPA BAY SIMMONS PARK	274600	0822800	FL	057	ESTARY	1972						6	E21
10	F	77443	9	HILLS BAY APOLLO BEACH	274730	0822554	FL	057	ESTARY	1971						6	E21
10	F	77444	80	HILLS BAY 3 CHANNEL JUNCT	274842	0822654	FL	057	ESTARY	1972						6	E21
10	F	77445	73	HILLS BAY MARKER A	274930	0822500	FL	057	ESTARY	1972						6	E21
10	G	77448	74	ALAFIA RIVER US 41	275133	0822303	FL	057	ESTARY	1972						6	E21
10	G	77449	55	HILLS BAY MARKER 22	275048	0822630	FL	057	ESTARY	1971						6	E21
10	G	77450	8	HILLS BAY CITIES SERVICE	275112	0822454	FL	057	ESTARY	1971						6	E21
10	G	77451	71	HILLS BAY ARCHIE CREEK	275248	0822512	FL	057	ESTARY	1972						6	E21
10	G	77452	54	MC KAY BAY 22ND ST	275500	0822554	FL	057	ESTARY	1971						6	E21
10	G	77455	52	MC KAY BAY PORT SUTTON	275406	0822624	FL	057	ESTARY	1971						6	E21
10	G	77460	2	HILLS RIVER MOUTH	275624	0822730	FL	057	ESTARY	1971						6	E21
10	G	77461	44	HILLS BAY BAYSHORE	275536	0822836	FL	057	ESTARY	1971						6	E21
10	G	77462	70	HILLS BAY S DAVIS I	275424	0822748	FL	057	ESTARY	1972						*	E21
10	H	77463	6	HILLS BAY BALLAST POINT	275324	0822824	FL	057	ESTARY	1971						6	E21
10	H	77464	7	HILLS BAY MAC DILL CHANNEL	275130	0822836	FL	057	ESTARY	1971						6	E21
10	H	77465	11	TAMPA BAY MARKER 3	274854	0822836	FL	057	ESTARY	1971						6	E21
10	H	77466	13	TAMPA BAY F MARKER	274842	0823130	FL	057	ESTARY	1971						6	E21
10	H	77467	36	OLD TAMPA BAY PORT TAMPA	275140	0823318	FL	057	ESTARY	1971						6	E21
10	H	77468	51	OLD TAMPA BAY GANDY BRIDGE	275330	0823300	FL	057	ESTARY	1971						6	E21
10	H	77469	50	OLD TAMPA BAY HOWARD FRANKLIN	275506	0823242	FL	057	ESTARY	1971						6	E21
10	H	77470	41	OLD TAMPA BAY HOWARD FRANKLIN EAST	275618	0823354	FL	057	ESTARY	1971						6	E21
10	H	77471	49	OLD TAMPA BAY AT CAMPBELL PKY	275754	0823342	FL	057	ESTARY	1971						6	E21
10	H	77473	62	OLD TAMPA BAY N OF BEACH	275818	0823430	FL	057	ESTARY	1972						6	E21
10	H	77474	63	OLD TAMPA BAY TAMPA BEACH	275806	0823454	FL	057	ESTARY	1972						6	E21
10	H	77476	47	OLD TAMPA BAY E CAUSEWAY	275818	0823724	FL	057	ESTARY	1971						6	E21
10	H	77479	60	OLD TAMPA BAY CABBAGEHEAD BAYOU	275930	0823800	FL	103	ESTARY	1972						6	E21
10	H	77480	46	OLD TAMPA BAY BOOTH PT	275930	0823924	FL	103	ESTARY	1971						6	E21

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
10	H	77481	64	OLD TAMPA BAY COOPER PT	275830	0824100	FL	103	ESTARY	1972						6	E21
10	H	77482	65	OLD TAMPA BAY LARGO INLET	275636	0824148	FL	103	ESTARY	1972						6	E21
10	H	77483	66	OLD TAMPA BAY BIG ISLAND	275506	0823754	FL	103	ESTARY	1972						6	E21
10	H	77484	40	OLD TAMPA BAY FRANKLIN SPAN	275542	0823518	FL	057	ESTARY	1971						6	E21
10	H	77485	67	OLD TAMPA BAY N GANDY	275342	0823630	FL	103	ESTARY	1972						6	E21
10	H	77486	38	OLD TAMPA BAY GANDY WEST	275254	0823454	FL	103	ESTARY	1971						6	E21
10	H	77487	68	OLD TAMPA BAY WEEDON I	275142	0823512	FL	103	ESTARY	1972						6	E21
10	H	77488	33	TAMPA BAY MARKER 12J	274936	0823416	FL	103	ESTARY	1971						*	E21
10	H	77489	32	TAMPA BAY MARKER 5G	274730	0823424	FL	103	ESTARY	1971						6	E21
10	H	77490	14	TAMPA BAY F MARKERS	274654	0823136	FL	057	ESTARY	1971						6	E21
10	H	77491	82	TAMPA BAY CUT J MARKER	274500	0823418	FL	057	ESTARY	1972						6	E21
10	H	77492	16	TAMPA BAY E MARKERS	274324	0823212	FL	057	ESTARY	1971						6	E21
10	H	77493	28	TAMPA BAY ST PETE MARKER 6	274230	0823636	FL	103	ESTARY	1971						6	E21
10	H	77494	23	TAMPA BAY 9B	274000	0823600	FL	057	ESTARY	1971						6	E21
10	H	77455	25	TAMPA BAY E TARPON KEY	273945	0824012	FL	103	ESTARY	1971						6	E21
10	H	77496	96	TAMPA BAY MULLET SHOAL	273818	0824116	FL	057	ESTARY	1972						6	E21
10	H	77497	94	EGMONT CHANNEL R10 TAMPA BAY	273636	0824654	FL	057	ESTARY	1972						6	E21
09	K	67044	02316000	ALAPAHA R NR ALAPAHA GA	312303	0831133	GA	019	STREAM	1953			6				GS
09	P	53273	02320500	SUWANNEE R AT BRANFORD FL	295720	0825540	FL	121	STREAM	1954			5				GS
11	C	61924	02327100	SOPCHOPPY R NR SOPCHOPPY FL	300745	0842940	FL	129	STREAM	1964		*	5				GS
11	D	67048	02331000	CHATTAHOOCHEE R NR LEAF GA	343437	0833809	GA	137	STREAM	1957			6	*			GS
11	D	54579	02338500	CHATT R FRANKLIN GA	331645	0850600	GA	149	STREAM	1963	1972		5				CE
11	D	54577		CHATT R WEST POINT HWY 29 GA	325235	0851050	GA	285	STREAM	1956			3				CE
11	I	54580	02343260	CHATT R FT GAINES GA	3136	08503	GA	061	STREAM	1951			3				CE
11	E	67059	02344700	LINE C NR SENOIA GA	331910	0843125	GA	077	STREAM	1964			6				GS
11	H	56839	02349500	FLINT R AT MONTEZUMA GA	3218	08403	GA	193	STREAM	1967	1968		2				CE
11	H	67063	02350600	KINCHAFOONEE C AT PRESTON GA	320313	0843253	GA	307	STREAM	1954			6				GS
11	F	67066	02353500	ICHAWAYNOCHAWAY C AT MILFORD GA	312258	0843252	GA	007	STREAM	1940			6	*			GS
11	K	53276	02358000	APALACHICOLA R AT CHATTAHOOCHEE FL	304203	0845133	FL	063	STREAM	1962			*				GS
12	N	54566	02382500	COOSAWATTEE R CARTERS GA	343615	0844125	GA	213	STREAM	1963			5				CE
12	O	67075	02392000	ETOWAH R AT CANTON GA	341423	0842947	GA	057	STREAM	1937			6	*			GS
12	O	54578	02394000	ETOWAH R BL ALLATOONA DAM GA	340950	0844430	GA	015	STREAM	1961			5				CE
12	O	54574		ETOWAH R CARTERSVILLE HWY 41 GA	340913	0844610	GA	015	STREAM	1961			5				CE
12	O	54575		ETOWAH R CARTERSVILLE HWY 61 GA	3408	08450	GA	015	STREAM	1961			5				CE
12	O	54576	02395000	ETOWAH R KINGSTON GA	3413	08459	GA	015	STREAM	1961			5				CE
12	T	54571	02420000	ALABAMA R MONTGOMERY AL	322442	0862432	AL	101	STREAM	1961	1971		8				CE
12	T	54573	02427500	ALABAMA R MILLER FERRY AL	3207	08724	AL	131	STREAM	1961	1967		8				CE
12	T	54581	02429500	ALABAMA R CLAIBORNE AL	3132	08731	AL	099	STREAM	1951			3				CE
13	B	77923	02430500	TOMBIGBEE R NR MARIETTA MS	342600	0882500	MS	057	STREAM	1971			8				CE
13	B	77924	02431000	TOMBIGBEE R NR FULTON MS	341555	0882642	MS	057	STREAM	1971			3				CE

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD BEGAN	PERIOD OF RECORD DISCONTINUED	INTERRUPTED RECORD	SEDIMENT CONCENTRATION (SUSPENDED)	SEDIMENT PARTICLE SIZE (SUSPENDED)	SEDIMENT PARTICLE SIZE (BED MATERIAL)	SEDIMENT OTHER	AGENCY REPORTING
13	L	77925	02431500	TOMBIGBEE R AT BEANS FERRY MS	341220	0882350	MS	057	STREAM	1972			8				CE
13	L	77926		TOMBIGBEE R AT IRONWOOD BLUFF MS	340735	0882353	MS	057	STREAM	1973			8				CE
13	B	77927	02433000	BULL MOUNTAIN C NR SMITHVILLE MS	340518	0882326	MS	057	STREAM	1971			8				CE
13	L	77928	02433100	TOMBIGBEE R AT BARRS FERRY MS	340540	0882550	MS	057	STREAM	1973			8				CE
13	B	77929	02433500	TOMBIGBEE R AT BIGBEE MS	340040	0883050	MS	095	STREAM	1972			8				CE
13	C	77930	02436500	TOWN C NR NETTLETON MS	340332	0883740	MS	095	STREAM	1973			8				CE
13	L	56838	02437000	TOMBIGBEE R NR AMORY MS	335910	0883305	MS	095	STREAM	1967		*	3				CE
13	L	77931	02437500	TOMBIGBEE R AT ABERDEEN MS	334914	0883107	MS	095	STREAM	1971			3				CE
13	D	77932		BUTTAHATCHEE R AT HAMILTON MS	334024	0882545	MS	095	STREAM	1971			8				CE
13	L	77933		TOMBIGBEE R AB COLUMBUS MS	3333	0882900	MS	087	STREAM	1973			8				CE
13	L	77934	02444500	TOMBIGBEE R NR COCHRANE AL	330445	0881418	AL	107	STREAM	1972			8				CE
13	L	56840	02441500	TOMBIGBEE R AT COLUMBUS MS	332921	0882557	MS	087	STREAM	1967	1968		3				CE
13	L	85464	02443000	LUXAPALLILA C AT STEENS MS	333355	0881855	MS	087	STREAM	1973			3				CE
13	F	77935	02447000	SIPSEY R NR PLEASANT RIDGE AL	330212	0880651	AL	063	STREAM	1973			8				CE
13	G	77936	02448500	NOXUBEE R NR GEIGER AL	325506	0881745	AL	119	STREAM	1973			8				CE
13	G	77937		NOXUBEE R AT GAINESVILLE AL	324936	0881057	AL	119	STREAM	1973			8				CE
13	L	77938	02449000	TOMBIGBEE R AT GAINESVILLE AL	3249	0880900	AL	119	STREAM	1971			3				CE
13	M	54582		TOMBIGBEE R JACKSON AL	313114	0875454	AL	025	STREAM	1951			3				CE
13	S	54129	02480350	TCHOUTALABOUFFA R NR BILOXI MISS	303335	0885305	MS	047	STREAM	1964	1966		*				GS
13	S	54130	02480500	TUXACHANIE C NR BILOXI MISS	303035	0885440	MS	047	STREAM	1964	1966		*				GS
13	S	54131	02481130	BILOXI R NR LYMAN MISS	302917	0890210	MS	047	STREAM	1964	1966		*				GS
13	S	54133	02481510	WOLF R NR LANDON MISS	302902	0891640	MS	047	STREAM	1964	1966		*				GS
13	T	55143	UTR-1-6	RE-UPR-TRXT-1-6 MISS	3230	08958	MS	089	RESER	1964	1967					*	EPA
13	T	55151	UTR-1-6	RE-UPR-TRXT-1-6 MISS	3230	08958	MS	089	RESER	1964	1967					*	EPA
13	T	55141	BTR-1-4	RE-MDL-TRXT-1-4 MISS	3228	09000	MS	089	RESER	1964	1967					*	EPA
13	T	55149	BTR-1-4	RE-MDL-TRXT-1-4 MISS	3228	09000	MS	089	RESER	1964	1967					*	EPA
13	T	55142	LTR-1-10	RE-LOR-TRXT-1-10 MISS	3224	09002	MS	089	RESER	1964	1967					*	EPA
13	T	55150	LTR-1-10	RE-LOR-TRXT-1-10 MISS	3224	09002	MS	089	RESER	1964	1967					*	EPA
13	V	53935	02489500	PEARL R NR BOGALUSA LA	304735	0894915	LA	117	STREAM	1951			1				GS
13	U	54135	02490750	MCGEES C AT TYLERTOWN MISS	310650	0900730	MS	147	STREAM	1965	1966		*				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCONTINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN: 03																	
TOTAL:		230															

GREAT LAKES REGION 04

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
80	A	54362	04001000	WASHINGTON C AT WINDIGO MI	475523	0890842	MI	083	STREAM	1966			5	7	*		GS
80	A	57125	LS-1	LAKE SUPERIOR	474411	0902314	MN	031	LAKE	1967						5	L11
29	A	63278	04014500	BAPTISM R NR BEAVER BAY MN	472015	0911200	MN	075	STREAM	1967		*	2				GS
80	A	57124	LS-2	LAKE SUPERIOR	471810	0911407	MN	075	STREAM	1967						5	L11
80	A	57123	LS-3	LAKE SUPERIOR	465154	0915730	MN	137	LAKE	1967	1968					5	L11
29	B	72871	SLB 0	SUPERIOR BAY LIFT BRIDGE	464648	0920600	MN	137	STREAM	1971	1973					5	L11
29	D	57122	SL-120	SAINT LOUIS R	472147	0923550	MN	137	STREAM	1967	1968					5	L11
29	D	57121	SL-51.9	SAINT LOUIS R	465050	0923434	MN	137	STREAM	1962						5	L11
29	D	57120	SL-19.1	SAINT LOUIS R	463910	0921655	MN	137	STREAM	1953						5	L11
27	A	57119	NE-8	NF NEMADJI R	463107	0922322	MN	017	STREAM	1967		*				5	L11
27	A	81589	04024430	NEMADJI R NR SOUTH SUPERIOR WI	463800	0920538	WI	031	STREAM	1973			2	6	6		GS
27	A	51200	04025500	BOIS BRULE R AT BRULE WI	463216	0913543	WI	031	STREAM	1954			5	7	7		GS
27	A	73123	04026005	BOIS BRULE R NR LAKE SUPERIOR WI	464220	0913607	WI	031	STREAM	1970			5	7	7		GS
27	A	67729	04026300	SIOUX R NR WASHBURN WI	464120	0905702	WI	007	STREAM	1968	1970		6		6		GS
27	B	51201	04027000	BAD R NR ODANAH WI	462915	0904145	WI	003	STREAM	1954			5	7	7		GS
23	D	69079	04045580	ST MARYS R AB SAULT STE MARIE MI	462929	0842517	MI	033	STREAM	1969			5	5			GS
23	I	82171	04057800	MB ESCANABA R AT HUMBOLDT MI	462957	0875311	MI	103	STREAM	1961			5	5			GS
23	I	54360	04057900	BLACK R NR REPUBLIC MI	462508	0875321	MI	103	STREAM	1961	1968		5	5	5		GS
23	I	54361	04058000	MB ESCANABA R NR ISHPEMING MI	462340	0874530	MI	103	STREAM	1961			*	3			GS
23	I	66821	04058120	GREEN C NR PALMER MI	462242	0873244	MI	103	STREAM	1963			*	3			GS
23	I	54364	04058200	SCHWEITZER C NR PALMER MI	462440	0873727	MI	103	STREAM	1961	1971		5				GS
23	I	54365	04058500	EB ESCANABA R AT GWINN MI	461710	0872600	MI	103	STREAM	1961			3	3			GS
23	K	51202	04061000	BRULE R NR FLORENCE WIS	455731	0881557	MI	071	STREAM	1964	1968		8				GS
23	K	54367	04062200	PESHEKEE R NR CHAMPION MI	463325	0880009	MI	103	STREAM	1961			*				GS
23	K	54368	04062400	MICHIGAMME R NR WITCH LAKE MI	461448	0880045	MI	043	STREAM	1964			*	3			GS
23	K	51203	04063700	POPPLE R NR FENCE WI	454550	0882750	WI	037	STREAM	1964			5	7	7		GS
23	K	51204	04066000	MENOMINEE R NR PEMBINE WI	453525	0874635	MI	109	STREAM	1954			7				GS
23	K	82142	04066500	PIKE R AT AMBERG WI	452950	0875937	WI	075	STREAM	1954	1970		5				GS
23	M	74514	04071000	OCONTO R NR GILLETT WI	445155	0881800	WI	083	STREAM	1954			5	7	7		GS
23	N	74515	04071858	PENSAUKEE R NA PENSAUKEE WI	444909	0875715	WI	083	STREAM	1972			4	7	7		GS
23	Q	65484	04072750	LAWRENCE C NR WESTFIELD WI	435352	0893443	WI	077	STREAM	1967			5	7	7		GS
23	Q	74516	04073050	GRAND R NR KINGSTON WI	434109	0890509	WI	047	STREAM	1968			5	7	7		GS
23	Q	67735	04073500	FOX R AT BERLIN WI	435715	0885710	WI	047	STREAM	1954			7		7		GS
23	O	74521	04078500	EMBARRASS R NR EMBARRASS WI	444329	0884410	WI	115	STREAM	1954			5	7	7		GS
23	O	51205	04080000	L WOLF R AT ROYALTON WI	442445	0885155	WI	135	STREAM	1955	1970		6		6		GS
23	O	56322	04081000	WAUPACA R NR WAUPACA WI	441950	0885945	WI	135	STREAM	1954	1970		6				GS
23	R	67734	04085200	KEWAUNEE R NR KEWAUNEE WI	442730	0873323	WI	061	STREAM	1964			5	7	7		GS
23	R	74528	04085281	E TWIN R AT MISHICOT WI	441416	0873811	WI	071	STREAM	1972			5				GS
23	R	74552	04085427	MANITOWOC R AT MANITOWOC WI	440626	0874255	WI	071	STREAM	1972			5				GS
26	A	51206	04086000	SHEYBOYGAN R AT SHEYBOYGAN WI	434425	0874537	WI	117	STREAM	1954			5				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
26	B	74530	04086150	MILWAUKEE R AT KEWASKUM, WI	433102	0881322	WI	131	STREAM	1968			5	7	7		GS
26	B	67732	04086200	E B MILWAUKEE R AT NEW FANE WI	433301	0881118	WI	039	STREAM	1968			5	7	7		GS
26	B	67731	04086340	N B MILWAUKEE R NR FILLMORE WI	432858	0880339	WI	131	STREAM	1968			5	7	7		GS
26	B	67730	04086360	MILWAUKEE R AT WAUBEKA WI	432822	0875923	WI	089	STREAM	1968			*				GS
26	B	82143	04086500	CEDAR C NR CEDARBURG WI	431925	0875850	WI	089	STREAM	1954	1970		5		5		GS
26	B	67718	40865	CEDAR C NR CEDARBURG WIS	431925	0875848	WI	089	STREAM	1968	1971		*				GS
26	B	51207	04087000	MILWAUKEE R AT MILWAUKEE WI	430600	0875432	WI	079	STREAM	1964			5	7	7		GS
26	C	83989	04087018	MENOMONEE R AT MEQUON RD AT GERMANT	431318	0880759	WI	131	STREAM	1974			2	7	7		GS
26	C	83988	04087030	MENOMONEE R AT PILGRIM RD AT MENOMO	431023	0880615	WI	137	STREAM	1974			2	7	7		GS
26	C	83987	04087040	MENOMONEE R AT 124TH ST AT BUTLER W	430655	0880357	WI	137	STREAM	1974			2	7	7		GS
26	C	83986	04087050	L MENOMONEE R NR FREISTADT WI	431224	0880224	WI	089	STREAM	1974			2	7	7		GS
26	C	83985	04087060	NOYES CR AT 91ST ST AT MILWAUKEE WI	430822	0880131	WI	079	STREAM	1974			2	7	7		GS
26	C	83984	04087070	LITTLE MENOMONEE R AT U S H 41 AT M	431226	0880218	WI	079	STREAM	1974			2	7	7		GS
26	C	74535	04087120	MENOMONEE R AT WAUWATOSA WI	430244	0875959	WI	079	STREAM	1961			2	7	7		GS
26	C	83983	04087125	SCHOONMAKER C AT MILWAUKEE AVE AT W	430302	0875923	WI	079	STREAM	1974			2	7	7		GS
26	C	83982	04087130	HAWLEY RD STORM SEWER AT STATE ST A	430234	0875859	WI	079	DRAIN	1975			2	7	7		GS
26	C	83981	04087140	MENOMONEE R AT FALK CORP AT MILWAUK	430136	0875714	WI	079	STREAM	1975			2	7	7		GS
26	C	51208	04087220	ROOT R NR FRANKLIN WI	425225	0875945	WI	079	STREAM	1967			5	7	7		GS
26	C	51209	04087240	ROOT R AT RACINE WI	424505	0874925	WI	101	STREAM	1963			5	7	7		GS
26	C	73122	04087257	PIKE R NR RACINE WI	423849	0875138	WI	059	STREAM	1971			5				GS
80	B	55958	6373-496	LK MICHIGAN GREAT LAKES ILL	421847	0874809	IL	097	LAKE	1960			3				NFE
22	B	51813	04100500	ELKART R AT GOSHEN IN	413536	0855055	IN	039	STREAM	1963	1968		*	*			GS
22	D	80267	04102800	SB KALAMAZOO R AT HOMER MI	420850	0844811	MI	025	STREAM	1971	1972		7				GS
22	D	81600	04102850	SB KALAMAZOO R NR ALBION MI	421211	0844739	MI	025	STREAM	1971	1972		5	5			GS
22	D	80268	04102900	SB KALAMAZOO R AT ALBION MI	421425	0844455	MI	025	STREAM	1971	1972		7				GS
22	D	85485	04108690	KALAMAZOO R AT SAUGATUCK MI	423850	0861153	MI	005	STREAM	1973			5	5			GS
22	J	85486	04122080	MUSKEGON R NR MUSKEGON MI	431600	0861225	MI	121	STREAM	1974			5	5			GS
22	O	54386	04142000	RIFLE R NR STERLING MI	440421	0840112	MI	011	STREAM	1966	1972		*	3			GS
22	T	54388	04144500	SHIAWASSEE R AT OWOSSO MICH	430054	0841052	MI	155	STREAM	1966	1972		*	3			GS
22	Q	54389	04151500	CASS R AT FRANKENMUTH MICH	431940	0834453	MI	145	STREAM	1966	1972		*	3			GS
22	W	54390	04159500	BLACK R NR FARGO MI	430532	0823705	MI	147	STREAM	1966	1970		3	3			GS
22	X	54392	04164000	CLINTON R NR FRASER MI	423440	0825700	MI	099	STREAM	1966	1979		3	3			GS
22	Y	55081	32903 04165700	DETROIT R AT DETROIT MICH	422050	0825731	MI	163	STREAM	1957			*				EPA
22	Y	69078	04165700	DETROIT R AT DETROIT MI	422050	0825731	MI	163	STREAM	1969			5	5			GS
22	Z	81654	04173350	N F MILL C NR LIMA CENTER MI	421715	0835614	MI	161	STREAM	1966	1972		*	*			GS
22	AB	54393	04176500	R RAISIN NR MONROE MI	415740	0833155	MI	115	STREAM	1966	1972		*				GS
22	AE	51814	04182000	ST MARYS R NR FT WAYNE IN	405916	0850603	IN	003	STREAM	1953	1968		*	*			GS
22	AF	50883	04185000	TIFFIN R AT STRYKER OH	413017	0842549	OH	171	STREAM	1965		*	*	*	*		GS
22	AH	50885	04186500	AUGLAIZE R NR FT JENNINGS OH	405655	0841558	OH	137	STREAM	1965			*	*	*		GS
22	AG	50887	04189000	BLANCHARD R NR FINDLAY OH	410321	0834117	OH	063	STREAM	1965			*	*	*		GS

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD BEGAN	PERIOD OF RECORD DISCONTINUED	INTERRUPTED RECORD	SEDIMENT CONCENTRATION (SUSPENDED)	SEDIMENT PARTICLE SIZE (SUSPENDED)	SEDIMENT PARTICLE SIZE (BED MATERIAL)	SEDIMENT OTHER	AGENCY REPORTING
22	AH	50889	04191500	AUGLAIZE R NR DEFIANCE OH	411415	0842357	OH	039	STREAM	1966			*	*	*		GS
22	AI	50892	04193500	MAUMEE R AT WATERVILLE OH	413000	0834246	OH	095	STREAM	1950			*	*	*		GS
22	AK	50897	04196000	SANDUSKY R NR BUCYRUS OH	404813	0830021	OH	033	STREAM	1965			*	*	*		GS
22	AK	50900	04196800	TYMOCHTEE C AT CRAWFORD OH	405527	0832056	OH	175	STREAM	1965			5	5	5		GS
22	AK	67113	04196990	SANDUSKY R AT ST JOHNS BRIDGE NR ME	410149	0831256	OH	147	STREAM	1969			*	*	*		GS
22	AK	50901	04197000	SANDUSKY R NR MEXICO OH	410239	0831142	OH	147	STREAM	1965	1974	*	*	*	*		GS
21	AC	50906	04199000	HURON R AT MILAN OH	411806	0823625	OH	043	STREAM	1969	1974	*	*	*	*		GS
21	AC	50907	04199500	VERMILION R NR VERMILION OH	412255	0821901	OH	093	STREAM	1965		*	*	*	*		GS
21	Y	50908	04200500	BLACK R AT ELYRIA OH	412249	0820617	OH	093	STREAM	1969	1974		*	*	*		GS
21	Y	50909	04201500	ROCKY R NR BEREA OH	412424	0815314	OH	035	STREAM	1964			3	3	3		GS
21	Z	50914	04206000	CUYAHOGA R AT OLD PORTAGE OH	410808	0813250	OH	153	STREAM	1965			3	3	3		GS
21	Z	50915	04207200	TINKERS C AT BEDFORD OH	412304	0813139	OH	035	STREAM	1965			3	3	3		GS
21	Z	50917	04208000	CUYAHOGA R AT INDEPENDENCE OH	412343	0813748	OH	035	STREAM	1948			*	*	*		GS
21	Z	87706	5	CUYAHOGA R AT INDEPENDENCE OHIO	412345	0813745	OH	035	STREAM	1973			5	5	5	7	CE
21	AA	50918	04209000	CHAGRIN R AT WILLOUGHBY OH	413751	0812413	OH	085	STREAM	1965			3	3	3		GS
21	AA	50921	04212000	GRAND R NR MADISON OH	414426	0810248	OH	085	STREAM	1965	1974		*	*	*		GS
21	AA	50923	04212500	ASHTABULA R NR ASHTABULA OH	415129	0804544	OH	007	STREAM	1965	1974		*	*	*		GS
21	AB	50924	04213000	CONNEAUT C AT CONNEAUT OH	415537	0803615	OH	007	STREAM	1965		*	*	*	*		GS
04	S	85487	04219640	NIAGARA R (L ONTARIO) AT FORT NIAGA	431540	0790347	NY	063	STREAM	1973			6	6			GS
04	U	85488	04232006	GENESEE R (CHARLOTTE DKS) AT ROCHES	431326	0773659	NY	055	STREAM	1974			6	6			GS
03	N	80871	04242500	EB FISH C AT TABERG NY	431806	0753709	NY	065	STREAM	1966	1969		3	3			GS
03	N	77102	04243800	COWASELON C AT ONIONTOWN NY	430702	0754951	NY	053	STREAM	1967	1969		7				GS
03	N	56339	04245840	SCRIBA C NR CONSTANTIA NY	431535	0760011	NY	075	STREAM	1966			3				GS
03	N	77121	04246601	ONEIDA R BL DAM AT CAUGHDENOY NY	431614	0761222	NY	075	STREAM	1957	1969		*				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCON-TINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN:		04															
TOTAL:		104															

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MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
21	F	69957	03010500	ALLEGHENY R AT ELORED PA	415748	0782311	PA	083	STREAM	1970			8	8			GS
21	F	70001	03015500	BROKENSTRAW C AT YOUNGSVILLE PA	415139	0791903	PA	123	STREAM	1966	1970		3	6			GS
21	F	70004	03020500	OIL C AT ROUSEVILLE PA	412854	0794144	PA	121	STREAM	1970			3	6			GS
21	B	53948	03024000	FRENCH C AT UTICA PA	412615	0795722	PA	121	STREAM	1956		*	4	6			GS
21	B	70007	03025000	SUGAR C AT SUGARCREEK PA	412543	0795248	PA	121	STREAM	1970			4	6			GS
21	C	70009	03029500	CLARION R AT COOKSBURG PA	411950	0791233	PA	065	STREAM	1962			3	6			GS
21	F	70011	03032500	REDBANK C AT ST CHARLES PA	405948	0792340	PA	005	STREAM	1965			3	6			GS
21	E	70013	03045000	LOYALHANNA C AT KINGSTON PA	401733	0792027	PA	129	STREAM	1970			4	6			GS
21	H	54273	03050800	ROARING CK AT NORTON WV	385605	0795700	WV	083	STREAM	1965	1967		3	6			GS
21	H	54274	03050900	GRASSY RUN AT NORTCN WV	385610	0795740	WV	083	STREAM	1965	1967		3	6			GS
21	H	64163	03054500	TYGART VALLEY R AT PHILIPPI WV	390900	0800225	WV	001	STREAM	1968			5	7			GS
21	G	69291		WEST FORK-13	385105	0802725	WV	041	STREAM	1970						2	CE
21	G	69290		WEST FCRK-12	385150	0802550	WV	041	STREAM	1970						2	CE
21	G	69289		WEST FCRK-11	385310	0802840	WV	041	STREAM	1970						2	CE
21	G	64164	03061000	WF R AT ENTERPRISE W VA	392520	0801640	WV	033	STREAM	1907		*	5	7			GS
21	I	64165	03C70000	CHEAT R AT ROWLESBURG WV	392050	0794000	WV	077	STREAM	1968			5	7			GS
21	I	69296		CHEAT RIVER-4	392100	0794005	WV	077	STREAM	1970			2			2	CE
21	I	69295		CHEAT RIVER-3	392152	0794148	WV	077	STREAM	1970						2	CE
21	I	69294		CHFAT RIVER-2LB	392745	0793900	WV	077	STREAM	1970						2	CE
21	I	69293		CHEAT RIVER-2RB	392745	0793900	WV	077	STREAM	1970						2	CE
21	I	69292		CHEAT RIVER-1	392935	0793845	WV	077	STREAM	1970						2	CE
21	K	70023	03073000	SF TENMILE C AT JEFFERSON PA	395523	0000422	PA	059	STREAM	1961			2	6			GS
21	J	70029	03C79000	CASSELMAN R AT MARKLETON PA	395135	0791340	PA	111	STREAM	1970			4	6			GS
21	X	53958	03085000	MONONGAHELA R AT BRADDOCK PA	402328	0795130	PA	003	STREAM	1958			3			7	GS
21	O	70035	03105500	BEAVER R AT WAMPUM PA	405319	0802014	PA	073	STREAM	1970			2				GS
21	N	70036	03106000	CONNOQUENESSING C N ZELIENOPLE PA	404901	0801433	PA	007	STREAM	1970			2				GS
21	N	70C39	03106500	SLIPPERY ROCK C AT WURTEMBURG PA	405302	0801402	PA	073	STREAM	1965		*	2				GS
21	X	62265		OHIO R AT SHIPPINGPORT PA	403710	0802620	PA	007	STREAM	1957						6	ERD
21	X	50723	03109500	L BEAVER C NR E LIVERPOOL OH	404033	0803227	OH	029	STREAM	1964			*	*	*		GS
21	X	50724	03110000	YELLOW C NR HAMMONDSVILLE OH	403216	0804331	OH	081	STREAM	1965			*	*	*		GS
21	X	50725	03111500	SHORT C NR DILLONVALE OH	401136	0804404	OH	081	STREAM	1964			*	*	*		GS
21	X	50726	03114000	CAPTINA C AT ARMSTRONGS MILLS OH	395431	0805527	OH	013	STREAM	1965			*	*	*		GS
21	AD	64166	03114500	MIDDLE ISLAND C AT LITTLE W VA	392830	0805950	WV	095	STREAM	1915			5	7			GS
21	AD	50727	03115400	L MUSKINGUM R AT BLOOMFIELD OH	393347	0811214	OH	167	STREAM	1964			*	*	*		GS
21	P	50731	03116200	CHIPPEWA C AT EASTON OH	405647	0814435	OH	169	STREAM	1965			*	*	*		GS
21	P	50733	03117500	SANDY C AT WAYNESBURG OH	404021	0811536	OH	151	STREAM	1964			*	*	*		GS
21	P	50739	03123000	SUGAR C AB BEACH CITY DAM AT BEACH	403924	0813437	OH	151	STREAM	1965			*	*	*		GS
21	R	50760	03137000	KOKOSING R AT MILLWOOD OH	402351	0821709	OH	083	STREAM	1965	1974		*	*	*		GS
21	U	50771	03144000	WAKATOMIKA C NR FRAZEYSBURG OH	400757	0820853	OH	119	STREAM	1965			*	*	*		GS
21	U	50772	03144500	MUSKINGUM R AT DRESDEN OH	400713	0815959	OH	119	STREAM	1952			*	*	*		GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
21	T	68847	03146000	N F LICKING R AT UTICA OH	401341	0822706	OH	089	STREAM	1969			*	*	*		GS
21	U	50776	03150000	MUSKINGUM R AT MCCONNELSVILLE OH	393842	0815100	OH	115	STREAM	1950			*			*	GS
21	V	64167	03153500	L KANAWHA R AT GRANTSVILLE WV	385520	0810550	WV	013	STREAM	1968			5				GS
21	AD	50783	03159540	SHADE R NR CHESTER OH	390349	0815255	OH	105	STREAM	1965			*	*	*		GS
19	C	64168	03179000	BLUESTONE R NR PIPESTEM WV	373245	0810030	WV	089	STREAM	1968			5				GS
19	A	64169	03184000	GREENBRIER R AT HILLDALE WV	373825	0804820	WV	089	STREAM	1968			5				GS
19	B	73517	03189100	GAULEY R NR CRAIGSVILLE WV	381730	0803830	WV	067	STREAM	1968			5				GS
19	D	64171	03194700	ELK R BL WEBSTER SPRINGS WV	383550	0802920	WV	101	STREAM	1968			5				GS
19	E	75576	03198350	CLEAR F AT WHITESVILLE, WV	385759	0813128	WV	081	STREAM	1972			5				GS
19	E	75578	03198400	BIG COAL R NR SETH, WV	380551	0813654	WV	005	STREAM	1972			5				GS
19	E	75577	03198420	LAUREL CR AT SETH, WV	380610	0813750	WV	005	STREAM	1972			5				GS
19	F	75979	03198550	BIG COAL R NR ALUM C WV	381500	0814754	WV	039	STREAM	1973			5				GS
19	E	75574	03198900	POND F AT MADISON WV	380314	0814820	WV	005	STREAM	1972			5				GS
19	E	75575	03200500	COAL R AT TORNADO, WV	382015	0815030	WV	039	STREAM	1972			1				GS
19	M	50785	03202000	RACCOON C AT ADAMSVILLE OH	385225	0822122	OH	053	STREAM	1951		*	*	*	*		GS
19	H	65791	03207800	LEVISA F AT BIG ROCK VA	372113	0821145	VA	027	STREAM	1969			1	1		1	GS
19	H	83473	03207805	CONAWAY C AT CONAWAY VA	372045	0821229	VA	027	STREAM	1974			1	1		1	GS
19	H	83479	03207845	CARD C AT MOUTHCARD KY	372254	0821530	KY	195	STREAM	1973			4	4		4	GS
19	H	83478	03207875	FEDS C AT FEDS CREEK KY	372407	0821438	KY	195	STREAM	1973			1	1		1	GS
19	H	83958	03207905	BIG C AT DUNLAP KY	372543	0821452	KY	195	STREAM	1974			5	5		5	GS
19	H	83477	03207925	ISLAND C NR PHYLLIS KY	372523	0821817	KY	195	STREAM	1974			4	4		4	GS
19	H	83474	03207935	LICK C AT LICK CREEK KY	372344	0821808	KY	195	STREAM	1973			1	1		1	GS
19	H	83475	03207940	MILLERS C NR PHYLLIS KY	372519	0821953	KY	195	STREAM	1974			4	4		4	GS
19	H	83476	03207965	GRAPEVINE C AT PHYLLIS KY	372557	0822114	KY	195	STREAM	1973			1	1		1	GS
19	H	68964	03210000	JOHNS C NR META KY	373401	0822729	KY	195	STREAM	1970		*	1	1		1	GS
19	H	50155	03212500	LEVISA F AT PAINTSVILLE KY	374855	0824730	KY	115	STREAM	1949	1973	*	3	6			GS
19	J	50156	03215000	BIG SANDY R AT LOUISA KY	381016	0823805	KY	127	STREAM	1949		*	5				GS
19	M	83933	03216600	OHIO R AT GREENUP DAM KY	383848	0825138	KY	089	STREAM	1974			5				GS
19	M	50157	03217000	TYGARTS C NR GREENUP KY	383351	0825708	KY	089	STREAM	1956			3	6			GS
19	L	50792	03223000	OLENTANGY R AT CLARIDON OH	403458	0825920	OH	101	STREAM	1965			*	*	*		GS
19	L	50800	03228805	ALUM C AT AFRICA OH	401100	0825746	OH	041	STREAM	1965		*	*	*	*		GS
19	L	50807	03230500	BIG DARBY C AT DARBYVILLE OH	394203	0830635	OH	129	STREAM	1964			*	*	*		GS
19	L	63039	03230800	DEER C AT MOUNT STERLING OH	394254	0831526	OH	097	STREAM	1967			*	*	*		GS
19	K	67100	03232000	PAINT C NR GREENFIELD OH	392245	0832232	OH	047	STREAM	1966			*	*	*		GS
19	L	50816	03234500	SCIOTO R AT HIGBY OH	391244	0825150	OH	141	STREAM	1953			*	*	*		GS
19	V	50822	03237280	UPPER TWIN C AT MCGAW OH	383837	0831257	OH	145	STREAM	1963			5	6	7		GS
19	M	50823	03237500	OHIO BRUSH C NR WEST UNION OH	384813	0832516	OH	001	STREAM	1965			*	*	*		GS
19	V	50824	03238500	WHITEOAK C NR GEORGETOWN OH	385127	0835543	OH	015	STREAM	1965			*	*	*		GS
19	N	50826	03240500	N F MASSIES C AT CEDARVILLE OH	394525	0834725	OH	057	STREAM	1954	1968		3	6			GS
19	N	50827	03241000	S F MASSIES C NR CEDARVILLE OH	394420	0834550	OH	057	STREAM	1954	1968		3	6			GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
19	N	67104	03246200	E F L MIAMI R NR MARATHON OH	390652	0840129	OH	025	STREAM	1969			*	*	*		GS
19	P	50158	03249500	LICKING R AT FARMERS KY	380655	0833236	KY	011	STREAM	1949			*	*			GS
19	P	50159	03251500	LICKING R AT MCKINNEYSBURG KY	383552	0841600	KY	191	STREAM	1952	1973		3	6			GS
19	P	80366	03254000	LICKING R AT BUTLER KY	384722	0842205	KY	191	STREAM	1949			5				GS
19	R	50842	03261500	GREAT MIAMI R AT SIDNEY OH	401713	0840900	OH	149	STREAM	1965			3	3	3		GS
19	R	50843	03261950	LORAMIE C NR NEWPORT OH	401825	0842302	OH	149	STREAM	1965			3	3	3		GS
19	R	50846	03262700	GREAT MIAMI R AT TROY OH	400225	0841152	OH	109	STREAM	1965			*	*	*		GS
19	R	50850	03264000	GREENVILLE C NR BRADFORD OH	400608	0842548	OH	037	STREAM	1965	1974		*	*	*		GS
19	R	50851	03265000	STILLWATER R AT PLEASANT HILL OH	400328	0842122	OH	109	STREAM	1963			3	3	3		GS
19	R	50854	03267000	MAD R NR URBANA OH	400627	0834757	OH	021	STREAM	1965	1974		*	*	*		GS
19	R	50867	03271800	TWIN C NR INGOMAR OH	394228	0843130	OH	135	STREAM	1963	1974		*	*	*		GS
19	R	50873	03272800	SEVENMILE C AT COLLINSVILLE OH	393123	0843639	OH	017	STREAM	1965	1972		*	*	*		GS
19	Q	66872	03275000	WHITEWATER R NR ALPINE IND	393423	0850927	IN	041	STREAM	1968			5	5	7		GS
19	Q	63275	03275600	E F WHITEWATER R AT ABINGTON IN	394357	0845735	IN	177	STREAM	1967			5	5	7		GS
19	Q	51798	03276000	EF WHITEWATER R AT BROOKVILLE IND	392602	0850012	IN	047	STREAM	1963	1968		*	*			GS
19	V	66877	03276700	S HOGAN C NR DILLS BORO IN	390147	0850217	IN	029	STREAM	1968			5	5	7		GS
19	V	50161	03277200	OHIO R AT MARKLAND DAM KY	384629	0845752	KY	077	STREAM	1959			5				GS
19	U	50163	03287500	KENTUCKY R AT L4 AT FRANKFORT KY	381206	0845254	KY	073	STREAM	1906			3	6			GS
19	U	50164	03291500	EAGLE C AT GLENCOE KY	384218	0844926	KY	187	STREAM	1949			*	*			GS
17	B	50165	03298500	SALT R AT SHEPHERDSVILLE KY	375906	0834303	KY	029	STREAM	1949		*	*	*			GS
17	A	83850	03301630	ROLLING F NR LEBANON JUNCTION KY	374922	0854452	KY	093	STREAM	1973			5				GS
17	C	66871	03303000	BLUE R NR WHITE CLOUD IN	381415	0861342	IN	061	STREAM	1968			5	5	7		GS
17	D	83948	03303280	OHIO R AT CANNELTON DAM KY	375358	0864220	KY	091	STREAM	1974			5				GS
17	D	51799	03303300	M F ANDERSON R AT BRISTOW IN	380819	0864316	IN	123	STREAM	1964			5	5	7		GS
18	D	50169	03308500	GREEN R AT MUNFORDVILLE KY	371605	0855310	KY	099	STREAM	1949			3	6			GS
18	D	50171	03309100	WET PRONG BUFFALO C NR MAM CAVE KY	371347	0861024	KY	061	STREAM	1962	1974		*				GS
18	D	83934	03321230	GREEN R NR BEECH GROVE KY	373521	0872416	KY	233	STREAM	1974			5				GS
17	I	73047	03322900	WABASH R AT LIN GROVE IN	403922	0850158	IN	001	STREAM	1970			5	5	7		GS
17	I	66876	03323000	WABASH R AT BLUFFTON IN	404430	0851019	IN	179	STREAM	1968	1970		5	5	5		GS
17	I	66879	03324000	LITTLE R NR HUNTINGTON IN	405414	0852422	IN	069	STREAM	1969			5	5	7		GS
17	I	51801	03324300	SALAMONIE R NR WARREN IN	404245	0852713	IN	069	STREAM	1963			5	5	7		GS
17	F	66878	03328500	EEL R NR LOGANSPORT IN	404655	0861550	IN	017	STREAM	1969			3	3	7		GS
17	I	66890	03329700	DEER C NR DELPHI IN	403525	0863715	IN	015	STREAM	1969			5	5	7		GS
17	G	66873	03331500	TIPPECANOE R NR ORA IN	410926	0863349	IN	131	STREAM	1968			5	5	7		GS
17	H	66874	03335000	WILDCAT C NR LAFAYETTE IN	402626	0864946	IN	157	STREAM	1968	1974		5	5	7		GS
17	L	51802	03335500	WABASH R AT LAFAYETTE IN	402519	0865349	IN	157	STREAM	1954			*	*			GS
17	K	73048	03339500	SUGAR C AT CRAWFORDSVILLE IN	400256	0865358	IN	107	STREAM	1971			5	5	7		GS
17	K	66875	03340000	SUGAR C NR BYRON IN	395552	0870733	IN	121	STREAM	1949	1971		5	5	5		GS
17	L	51803	03340800	BIG RACOON C NR FINCASTLE IN	394845	0865714	IN	133	STREAM	1959			3	3	7		GS
17	R	75330	03347000	WHITE R AT MUNCIE IN	401215	0852314	IN	035	STREAM	1968	1969		*	*			GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
17	R	51805	03348500	WHITE R NR NOBLESVILLE IN	400746	0855746	IN	057	STREAM	1953			5	5	7		GS
17	R	51808	03351500	FALL C NR FORTVILLE IN	395715	0855205	IN	057	STREAM	1963	1968		*	*			GS
17	R	66882	03353200	EAGLE C AT ZIONSVILLE IN	395656	0861522	IN	011	STREAM	1969			5	5	7		GS
17	N	66881	03357500	BIG WALNUT C NR REELSVILLE IN	393211	0865835	IN	133	STREAM	1969			5	5	7		GS
17	N	66880	03358000	MILL C NR CATARACT IND	392600	0864548	IN	119	STREAM	1969			5	5	7		GS
17	O	66870	03361500	BIG BLUE R AT SHELBYVILLE IN	393145	0854655	IN	145	STREAM	1968			5	5	7		GS
17	O	66869	03362500	SUGAR C NR EDINBURG IN	392139	0855951	IN	081	STREAM	1968			5	5	7		GS
17	Q	66884	03363500	FLATROCK R AT ST. PAUL IN	392503	0853803	IN	145	STREAM	1969			5	5	7		GS
17	Q	66883	03365000	SAND C NR BREWERSVILLE IN	390503	0853932	IN	079	STREAM	1969			5	5	7		GS
17	Q	51810	03365500	E F WHITE R AT SEYMOUR IN	385857	0855357	IN	071	STREAM	1954			3	5	7		GS
17	P	66868	03366500	MUSCATATUCK R NR DEPUTY IN	384815	0854026	IN	077	STREAM	1968			5	5	7		GS
17	P	51811	03368000	BRUSH C NR NEBRASKA IN	390413	0852910	IN	079	STREAM	1963	1968		*	*			GS
17	S	85489	03374100	WHITE R AT HAZELTON IN	382923	0873300	IN	051	STREAM	1973			5	5			GS
17	T	51812	03376500	PATOKA R NR PRINCETON IN	382330	0873255	IN	051	STREAM	1963	1968		*	*			GS
16	B	50184	03383000	TRADEWATER R AT OLNEY KY	371326	0874653	KY	033	STREAM	1949	1973		3	6			GS
18	H	50187	03404000	CUMBERLAND R AT WILLIAMSBURG KY	364438	0840930	KY	235	STREAM	1951	1973	*	*	*			GS
18	H	50188	03407100	CANE BR NR PARKERS LAKE KY	365205	0842657	KY	147	STREAM	1956			1	7			GS
18	K	76826	03425000	CUMBERLAND R AT CARTHAGE TN	361453	0855719	TN	159	STREAM	1965			5	5			GS
18	O	50190	03438220	CUMBERLAND R NR GRAND RIVERS KY	370118	0881316	KY	143	STREAM	1966			5				GS
16	D	56671	03612500	OHIO R AT DAM 53 NR GRAND CHAIN ILL	371211	0890230	IL	153	STREAM	1954			5				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCONTINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN: 05																	
TOTAL:		140															

TENNESSEE REGION 06

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
20	B	67840	03442652	LITTLE R AT CALHOUN NC	351515	0823834	NC	175	STREAM	1968						5	001
20	B	67851	03444111	FRENCH BRD R NR MILLS RIVER NC	352226	0823222	NC	089	STREAM	1968						5	001
20	B	67844	03446106	BAT FORK C NR E FLAT ROCK NC	351636	0822430	NC	089	STREAM	1968						5	001
20	B	52462	03453500	FRENCH BROAD R AT MARSHALL NC	354710	0823939	NC	115	STREAM	1956			5	5			GS
20	A	67869	03461951	N TOE R NR FRANK NC	360347	0820054	NC	011	STREAM	1969					5		001
20	A	67870	03461971	N TOE R NR SPEAR NC	360006	0820114	NC	011	STREAM	1969					5		001
20	A	67871	03461976	N TOE R NR INGALLS NC	355851	0820059	NC	011	STREAM	1969					5		001
20	A	67872	03491979	BRUSHY C NR INGALLS NC	355723	0815823	NC	011	STREAM	1969					5		001
20	A	67873	03461995	N TOE R NR ALTAPASS NC	355504	0820019	NC	121	STREAM	1969					5		001
20	A	67874	03462655	GRASSY C NR SPRUCE PINE NC	355219	0820349	NC	121	STREAM	1969					5		001
20	A	67875	03462855	N TOE R BL BUR C AT SPRUCE PINE NC	355452	0820403	NC	121	STREAM	1969					5		001
20	A	67876	03463021	N TOE R AT PENLAND NC	355546	0820657	NC	121	STREAM	1969					5		001
20	A	67877	03463402	S TOE AT CELO NC	355217	0821149	NC	199	STREAM	1969					5		001
20	A	67878	03463505	S TOE R NR NEWDALE NC	355432	0821129	NC	199	STREAM	1969					5		001
20	A	67879	03463674	N TOE R NR RED HILL NC	360047	0821346	NC	121	STREAM	1969					5		001
20	A	67880	03463801	CANE R AT BURNSVILLE NC	355416	0821959	NC	199	STREAM	1969					5		001
20	A	67881	03463802	MC INTOSH B NR BURNSVILLE NC	355449	0821814	NC	199	STREAM	1969					5		001
20	A	67882	03463803	MC INTOSH B AT BURNSVILLE NC	355448	0821813	NC	199	STREAM	1969					5		001
20	A	67883	03463808	CANE R NR BURNSVILLE NC	355438	0822053	NC	199	STREAM	1969					5		001
20	B	76801	03470500	FRENCH BROAD R NR KNOXVILLE TN	355730	0834626	TN	093	STREAM	1949			5	5			GS
20	K	54299	03497300	LITTLE R AB TOWNSEND TN	353952	0834241	TN	009	STREAM	1963			*	*			GS
20	F	54437		ALARKA C NR BRYSON CITY N C	352330	0832916	NC	173	STREAM	1965	1968		*			*	TVA
20	F	67891	03509666	SCOTT C AT CITY HALL BR AT SYLVA	352229	0831323	NC	099	CANAL	1968			5				001
20	F	67892	03510064	SCOTT C BL SYLVA NC	352208	0831456	NC	099	STREAM	1969			5				001
20	F	67893	03510577	TUCKASEGEE R AT PARKERS CREEK NC	352304	0831730	NC	099	STREAM	1969			5				001
20	F	67896	03512468	TUCKASEGEE R AT US 19 NR BRYSN CY	352554	0832452	NC	173	STREAM	1968			5				001
20	F	54458	H	L SANTEETLAH C NR ROBBINSVILLE NC	352140	0835528	NC	075	STREAM	1961	1966		*			*	TVA
20	F	54467		NF CITICO C NR TELLICO PLAINS TEN	352351	0840426	TN	123	STREAM	1960	1971		8			8	TVA
20	I	54482	H	WHITE C NR SHARPS CHAPEL TENN	362042	0835340	TN	173	STREAM	1934	1972		4			8	TVA
20	I	62543	7	WHITE CAK C AT WHITE OAK DAM TENN	355358	0841934	TN	145	STREAM	1955			*				ERD
20	I	62544		K-25 PUMPING STATION	355425	0842334	TN	145	STREAM	1962			*				ERD
20	I	62545	9	CLINCH R MILE 10 TENN	355516	0842553	TN	145	STREAM	1962			*				ERD
18	R	63459	H	STANKO BR NR HIGDON ALA	345052	0853835	AL	071	STREAM	1968	1970		4			7	TVA
18	P	54521		WEAKLEY C NR BODENHAM TENN	351508	0871008	TN	055	STREAM	1966	1969		*		*	*	TVA
18	P	54515	H	SUGAR C NR GCOD SPRINGS ALA	345640	0870920	AL	083	STREAM	1966	1968		*		*	*	TVA
18	Q	67480	XF-1 H	WF UPPER BEAR C NR MOUNT HOPE ALA	342435	0873053	AL	079	STREAM	1965			4				TVA
18	Q	67484	XF-2 H	EF UPPER BEAR C NR MOUNT HOPE ALA	342428	0873012	AL	079	STREAM	1965			4				TVA
18	Q	67487		BEAR C NR NEWBURG ALA	342309	0873111	AL	079	STREAM	1965	1971		4				TVA
18	Q	67485		BEAR C NR CARROLL CROSSROADS AL	342157	0873203	AL	059	STREAM	1965	1971		4				TVA
18	Q	67479		WHITEHEAD C NR FORKVILLE ALA	341655	0873330	AL	133	STREAM	1965	1971		8				TVA

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD BEGAN	PERIOD OF RECORD DISCONTINUED	INTERRUPTED RECORD	SEDIMENT CONCENTRATION (SUSPENDED)	SEDIMENT PARTICLE SIZE (SUSPENDED)	SEDIMENT PARTICLE SIZE (BED MATERIAL)	SEDIMENT OTHER	AGENCY REPORTING
18	Q	67478		WHITEHEAD C NR PEBBLE ALA	341733	0873415	AL	133	STREAM	1965	1971		8				TVA
18	Q	67481		POSEY C NR POSEY MILL ALA	341825	0874529	AL	059	STREAM	1965	1971		8				TVA
18	Q	67483		L BEAR C BL BATESTOWN BRIDGE ALA	341927	0873942	AL	059	STREAM	1965			*				TVA
18	Q	67486		AUSTIN B AT BEAR C ALA	341644	0874219	AL	093	STREAM	1965	1971		8				TVA
18	Q	67482		MILL C NR BEAR C ALA	341644	0874254	AL	093	STREAM	1965	1971		8				TVA
18	R	87717		TENNESSEE RIVER NEAR WATERLOO AL			AL		STREAM	1973						8	EPA
18	R	73642	03592800	YELLOW C NR DOSKIE MISS.	345402	0881735	MS	141	STREAM	1971			6				GS
18	U	54532	H	PINE TREE B NR LEXINGTON TENN	353949	0882053	TN	077	STREAM	1965			5	5		8	TVA
18	U	54533	H	PINEY C AT HWY 104 TENN	353547	0882204	TN	077	STREAM	1965			5				TVA
18	T	54519	H	WARTRACE C AT BELL BUCKLE	353516	0862022	TN	003	STREAM	1966	1969		*		*	*	TVA
18	U	83778	03609750	TENNESSEE R AT HWY 60 NR PADUCAH KY	370216	0883146	KY	145	STREAM	1973			5				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCONTINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN:		06															
TOTAL:			51														

UPPER MISSISSIPPI REGION 07

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
28	B	57101	UM-1365	MISSISSIPPI R	471517	0951320	MN	029	STREAM	1967						5	L11
28	B	57100	UM-1292	MISSISSIPPI R	472724	0944235	MN	007	STREAM	1967						5	L11
28	B	57099	UM-1186	MISSISSIPPI R	471347	0934530	MN	061	STREAM	1967						5	L11
28	F	57098	UM-1137	MISSISSIPPI R	470007	0931605	MN	001	STREAM	1967						5	L11
28	F	57097	UM-1029	MISSISSIPPI R	463240	0935709	MN	035	STREAM	1967	1968					5	L11
28	C	72873	PR-0.7	PINE RIVER NORTHWEST OF CROSBY	463418	0940140	MN	035	STREAM	1971						5	L11
28	E	63294	05244000	CROW WING R AT NIMROD MN	463825	0945244	MN	159	STREAM	1967			2	7	7		GS
28	E	72874	CWR-18	CROW WING RIVER NEAR PILLAGER	461913	0942758	MN	021	STREAM	1971						5	L11
28	F	57096	UM-982	MISSISSIPPI R	460430	0942015	MN	097	STREAM	1967						5	L11
28	W	57095	UM-953	MISSISSIPPI R	454932	0942124	MN	097	STREAM	1967		*				5	L11
28	G	72875	SA-0	SAUK RIVER AT SARTELL	453530	0941039	MN	145	STREAM	1971						5	L11
28	W	57094	UM 929	MISSISSIPPI R	453400	0941055	MN	145	STREAM	1953						5	L11
28	W	57093	UM-914	MISSISSIPPI R	452509	0940230	MN	141	STREAM	1967						5	L11
28	H	72876	ER 01	ELK RIVER AT ELK RIVER	451815	0933431	MN	141	STREAM	1971	1973					5	L11
28	K	68544	CR 44	CROW RIVER	445419	0935304	MN	019	STREAM	1969	1971					8	L11
28	K	68543	CR 35	CROW RIVER	445938	0934804	MN	171	STREAM	1969	1971					8	L11
28	K	57092	CR-0.2	CROW R	451437	0933107	MN	171	STREAM	1953						5	L11
28	W	57091	RUM-.6	RUM RIVER	451146	0932331	MN	003	STREAM	1953						5	L11
28	A	72872	LLR-18	LEECH LAKE R NR FEDCRAL DAM	471536	0951330	MN	021	STREAM	1971						5	L11
28	W	57089	RI-16	RICE C	451508	0930247	MN	003	STREAM	1967	1971					5	L11
28	W	57090	RI-1	RICE C	450622	0931554	MN	003	STREAM	1960	1971					5	L11
28	W	57087	UM-859	MISSISSIPPI R	450250	0931636	MN	053	STREAM	1967	1971					5	L11
28	O	57118	BSL-0	BIG STONE LAKE	451809	0962717	MN	011	LAKE	1953						5	L11
28	O	86841		WHETSTONE R NR BIG STONE CITY SD			SD	051	STREAM	1973			3	8			CE
28	O	57117	YB-10	YELLOW BANK R (NF)	451121	0962459	MN	073	STREAM	1967	1968					5	L11
28	O	86840		YELLOW BANK R NR ODESSA MN			MN	073	STREAM	1973			3	8			CE
28	M	72877	PT-9.9	POMME DE TERRE RIVER AT APPLETON	451203	0960145	MN	151	STREAM	1971						5	L11
28	O	57116	MI-200	MINNESOTA R	450552	0955829	MN	073	STREAM	1967						5	L11
28	R	57115	LQP-38	LAC QUI PARLE	444055	0961439	MN	173	LAKE	1967	1968					5	L11
28	N	57114	LQP-0.5	LAC QUI PARLE	450059	0955322	MN	073	LAKE	1967						5	L11
28	P	52756	05304500	CHIPPEWA R NR MILAN MN	450639	0954757	MN	023	STREAM	1960		*	2	7	7		GS
28	P	72878	CH 0 5	CHIPPEWA RIVER AT MONTEVIDEO	445625	0954350	MN	023	STREAM	1971						5	L11
28	R	57113	YM-44	YELLOW MEDICINE (NF)	443758	0960919	MN	173	STREAM	1967	1968					5	L11
28	R	57112	YM-0.5	YELLOW MEDICINE	444349	0952627	MN	173	STREAM	1967						5	L11
28	R	63300	05315000	REDWOOD R AT MARSHALL MN	442705	0954713	MN	083	STREAM	1967	1970		2	7	7		GS
28	R	52754	05316500	REDWCCD R NR REDWOOD FALLS MN	443125	0951020	MN	127	STREAM	1960	1970	*	2	7	7		GS
28	R	57111	MI-132	MINNESOTA R	443246	0945952	MN	129	STREAM	1967						5	L11
28	R	63301	05316770	MINNESCTA R AT NEW WLM MN	441929	0942709	MN	103	STREAM	1967			3	6	6		GS
28	Q	52753	05317000	COTTONWOOD R NR NEW WLM MN	441740	0942640	MN	015	STREAM	1961			2	7	7		GS
28	Q	57110	CO-0.5	COTTONWOOD R	441656	0942610	MN	015	STREAM	1953						5	L11

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD BEGAN	PERIOD OF RECORD DISCONTINUED	INTERRUPTED RECORD	SEDIMENT CONCENTRATION (SUSPENDED)	SEDIMENT PARTICLE SIZE (SUSPENDED)	SEDIMENT PARTICLE SIZE (BED MATERIAL)	SEDIMENT OTHER	AGENCY REPORTING
28	V	57109	MI-129	MINNESOTA R	441517	0942027	MN	013	STREAM	1953						5	L11
28	U	57108	BE-100	BLUE EARTH R	433425	0940617	MN	043	STREAM	1953						5	L11
28	U	57105	EBE-18	EF BLUE EARTH R	433546	0934844	MN	043	STREAM	1967						5	L11
28	U	65989	CEC-2	CENTER C	434500	0941400	MN	043	STREAM	1968						5	L11
28	U	57107	BE-63	BLUE EARTH R	434955	0941012	MN	043	STREAM	1958						5	L11
28	S	65988	WA-6	WATONWAN R	440245	0941130	MN	013	STREAM	1968						5	L11
28	V	57106	BE-0	BLUE EARTH R	440936	0940217	MN	013	STREAM	1967						5	L11
28	V	52751	05325000	MINNESOTA R AT MANKATO MN	441010	0940015	MN	103	STREAM	1960			3	6	6		GS
28	V	80609	05326200	JUDICIAL D 1A NR NEW SWEDEN MN	442440	0941502	MN	103	STREAM	1967	1967		2				GS
28	V	72879	MI 51 2	MINNOSCTA RIVER AT ST PETER	445856	0931851	MN	103	STREAM	1971						5	L11
28	V	57104	MI-70	MINNESOTA R	443156	0935412	MN	079	STREAM	1953						5	L11
28	W	57103	MI-25.1	MINNESOTA R	444807	0933142	MN	139	STREAM	1960	1971					5	L11
28	W	57088	UM-841	MISSISSIPPI R	445111	0930122	MN	037	STREAM	1967		*				5	L11
27	P	57086	UM-815	MISSISSIPPI R	444551	0925153	MN	037	STREAM	1953		*				5	L11
27	G	51210	05333500	ST CROIX R NR DANBURY WI	460428	0921450	WI	013	STREAM	1954			6				GS
27	G	67728	05335380	BASHAW BK NR SHELL LAKE WI	454702	0920751	WI	013	STREAM	1968	1970		*		*		GS
27	G	57C79	SC-111	SAINT CROIX R	463058	0922634	MN	115	STREAM	1953						5	L11
27	E	57076	KE-11	KETTLE R	460058	0925019	MN	115	STREAM	1967						5	L11
27	F	72880	SN-10	SNAKE RIVER AT PINE CITY	454948	0925818	MN	115	STREAM	1971	1973					5	L11
27	F	57075	SN-0	SNAKE R	454922	0924627	MN	115	STREAM	1967	1971					5	L11
27	G	57C78	SC-80	SAINT CROIX R	454622	0924644	MN	115	STREAM	1967	1971					5	L11
27	G	57074	RU-0.5	RUSH C	453924	0925342	MN	025	STREAM	1967						5	L11
27	G	57072	SU-16	SUNRISE R	452404	0925552	MN	025	STREAM	1967	1971					5	L11
27	G	57073	SU-2	SUNRISE R	453256	0925115	MN	025	STREAM	1967	1968					5	L11
27	G	72881	SC 52	ST CROIX R AT TAYLORS FALLS	452409	0923950	MN	025	STREAM	1953		*				5	L11
27	G	57C77	SC-17.3	SAINT CROIX R	445850	0924856	MN	163	STREAM	1967						5	L11
27	H	63305	05353800	STRAIGHT R NR FARIBAULT MN	441529	0931351	MN	131	STREAM	1967	1971		2	7	7		GS
27	P	57085	UM-797	MISSISSIPPI R	443643	0923645	MN	037	STREAM	1967	1968					5	L11
27	H	75C39	05355200	CANNON R AT WELCH	443350	0924355	MN	049	STREAM	1961	1967		7		7		GS
27	P	68542	UM 772.8	MISSISSIPPI RIVER	442710	0921530	MN	157	STREAM	1968	1971					7	L11
27	I	51211	05356500	CHIPPEWA R. NR BRUCE WI	452708	0911539	WI	107	STREAM	1954			*				GS
27	J	51212	05358500	FLAMBEAU R AT BABBS ISLAND NR WINTE	454607	0904541	WI	113	STREAM	1954			6				GS
27	J	67717	05359500	S F FLAMBEAU R NR PHILLIPS WI	454208	0903658	WI	099	STREAM	1954			5	7	7		GS
27	J	51213	05360500	FLAMBEAU R NR BRUCE WI	452221	0911234	WI	107	STREAM	1954			*				GS
27	M	51214	05362000	JUMP R AT SHELDON WI	451829	0905723	WI	107	STREAM	1954			6				GS
27	K	51198	05366500	EAU CLAIRE R NR FALL CREEK WIS	444835	0911650	WI	035	STREAM	1963	1968		*				GS
27	L	51215	05368000	HAY R AT WHEELER WI	450252	0915439	WI	033	STREAM	1954			5	7	7		GS
27	M	86842		CHIPPAWA R NR DURAND WISC			WI	091	STREAM	1974			3	8			CE
27	M	51216	05370000	EAU GALLE R AT SPRING VALLEY WI	445110	0921417	WI	093	STREAM	1954			6				GS
27	P	57084	UM-760.2	MISSISSIPPI R	442226	0920201	MN	155	STREAM	1967	1968					5	L11

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27	P	72882	UM 752	LOCK AND DAM NO 4 AT KELLOGG	441930	0915121	MN	157	STREAM	1971						5	L11
27	O	83903	05374000	ZUMBRC R AT ZUMBRO FALLS MN	441712	0922556	MN	157	STREAM	1961			2	7	7		GS
27	P	56323	05376000	N F WHITEWATER R NR ELBA MN	440530	0920357	MN	169	STREAM	1967			5	7	7		GS
27	Q	67727	05379400	TREMPEALEAU R AT ARCADIA WI	441515	0913025	WI	121	STREAM	1960			5	7	7		GS
27	Q	51217	05379500	TREMPEALEAU R AT DODGE WI	440755	0913314	WI	121	STREAM	1954			6				GS
27	X	57083	UM-714.3	MISSISSIPPI R	440000	0912625	MN	169	STREAM	1962						5	L11
27	R	51218	05381000	BLACK R AT NEILLSVILLE WI	443335	0903654	WI	019	STREAM	1954			*				GS
27	R	51219	05382000	BLACK R NR GALESVILLE WI	440342	0911730	WI	063	STREAM	1954			6				GS
27	S	63307	05384000	ROOT R NR LANESBORO MN	434458	0915843	MN	045	STREAM	1961	1971		2	7	7		GS
27	S	63308	05385000	ROOT R NR HOUSTON MN	434635	0913511	MN	055	STREAM	1961			2	7	7		GS
27	S	57080	RIC-24	RICEFORD C	434055	0914114	MN	055	STREAM	1967	1968					5	L11
27	S	57082	R-1.0	ROOT R	434631	0911750	MN	055	STREAM	1967						5	L11
27	T	70307	NO 2 STODDARD	MISSISSIPPI R STODDARD	433710	0911323	WI	123	STREAM	1966			8				Y02
27	T	57081	CRO-0.5	CROOKED CREEK	433553	0911731	MN	055	STREAM	1967	1968					5	L11
27	T	70305	NO 3 DAM NO 8	MISSISSIPPI R DAM NO 8 GENOA WIS	433407	0911342	WI	123	STREAM	1966			8				Y02
27	T	70308	NO 4 BOAT LANC	MISSISSIPPI R THIEF SL BOAT LANDIN	433317	0911400	WI	123	STREAM	1966			8				Y02
27	T	51199	05387100	NF BAD AXE R NR GENOA WI	433310	0910858	WI	123	STREAM	1968	1970		*		*		GS
27	T	70306	NO 5 VICTORY	MISSISSIPPI R BOAT RAMP VICTORY WI	432803	0911311	WI	123	STREAM	1966			8				Y02
27	T	72883	I O 20	UPPER IOWA RIVER AT GRANGER	433009	0920751	MN	045	STREAM	1971	1973					5	L11
27	T	52051	05387500	UPPER IOWA R AT DECORAH IA	431819	0914748	IA	191	STREAM	1962			*	*	*		GS
27	U	51220	05393500	SPIRIT R AT SPIRIT FALLS WI	452658	0895847	WI	069	STREAM	1954			5	7	7		GS
27	U	51221	05394500	PRAIRIE R NR MERRILL WI	451409	0893859	WI	069	STREAM	1954			*				GS
27	U	51222	05397500	EAU CLAIRE R AT KELLY WI	445506	0893300	WI	073	STREAM	1954			5	7	7		GS
27	U	51223	05399500	BIG EAU PLEINE R NR STRATFORD WI	444919	0900446	WI	073	STREAM	1954			5	7	7		GS
27	U	67725	05400650	LITTLE PLOVER R AT PLOVER WI	442826	0893144	WI	097	STREAM	1959			5	7	7		GS
27	W	67723	05401050	TENMILE C NR NEKOOSA WI	441544	0894838	WI	141	STREAM	1963			5	7	7		GS
27	W	74560	05401535	BIG ROCHE AT CRI C NR ADAMS WI	440552	0894630	WI	001	STREAM	1968			5	7	7		GS
27	W	51224	05402000	YELLOW R AT BABCOCK WI	441805	0900715	WI	141	STREAM	1954			*				GS
27	W	74561	05403500	LEMONWEIR R AT NEW LISBON WI	435247	0900940	WI	057	STREAM	1954			5	7	7		GS
27	X	70304	NO 1 MAIN CHA	MISSISSIPPI R MC LACROSSE WIS	434823	0911530	WI	063	STREAM	1966			8				Y02
27	W	67722	05404200	NARROWS C AT LOGANVILLE WI	432632	0900206	WI	111	STREAM	1968	1970		*		*		GS
27	W	51225	05405000	BARABOO R NR BARABOO WI	432851	0893809	WI	111	STREAM	1954			5				GS
27	W	74563	05406500	BLACK EARTH C AT BLACK EARTH WI	430803	0894350	WI	025	STREAM	1954			3	3	3		GS
27	W	74564	05406640	OTTER C NR HIGHLAND WI	430138	0901640	WI	049	STREAM	1968			*				GS
27	W	51226	05407000	WISCONSIN R AT MUSCODA WI	431154	0902626	WI	043	STREAM	1954			6				GS
27	V	81454	05407500	KICKAPOO R AT ONTARIO WI	434254	0903517	WI	123	STREAM	1972			3	6	6		GS
27	V	73124	05407920	KICKAPOO RIVER NR ROCKTON WI	433646	0903734	WI	123	STREAM	1971			3	6	6		GS
27	V	73128	05408000	KICKAPOO R AT LA FARGE WI	433427	0903835	WI	123	STREAM	1954			3	6	6		GS
27	V	73125	05409830	N F NEDERLO C NR GAYS MILLS WI	432147	0905434	WI	023	STREAM	1966			6	7	7		GS
27	V	73126	05409890	NEDERLO C NR GAYS MILLS WI	432143	0905244	WI	023	STREAM	1966			6	7	7		GS

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NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
27	V	74568	05410000	KICKAPOO R AT GAYS MILLS WI	431910	0905108	WI	023	STREAM	1964			5				GS
27	V	51227	05410500	KICKAPOO R AT STEUBEN, WI	431127	0905228	WI	023	STREAM	1954			*				GS
26	E	52050	05411600	TURKEY R AT SPILLVILLE IA	431228	0915656	IA	191	STREAM	1965	1973		5				GS
26	E	73576	05412500	TURKEY R AT GARBER IA	424424	0911542	IA	043	STREAM	1957	1973	*	*	*	*		GS
26	N	51228	05413500	GRANT RIVER AT BURTON WI	424313	0904909	WI	043	STREAM	1954			5	7	7		GS
26	N	51229	05414000	PLATTE RIVER NR ROCKVILLE WI	424352	0903825	WI	043	STREAM	1954			5				GS
26	N	54612		MISSISSIPPI R AT EAST DUBUQUE ILL	422950	0903850	IL	085	STREAM	1942			3	8			CE
26	N	54611		GALENA R AT BUNCOMBE WISCONSIN	423050	0902240	WI	065	STREAM	1942	1967		3	8			CE
26	N	74569	05415000	GALENA R AT BUNCOMBE WI	423049	0902240	WI	065	STREAM	1942			5				GS
26	G	52049	05421000	WAPSIPINICON R AT INDEPENDENCE IA	422749	0915342	IA	19	STREAM	1965	1973		5	*	*		GS
26	G	54610		WAPSIPINICON R NR DEWITT IOWA	414555	0903200	IA	045	STREAM	1942			3	8			CE
26	M	67721	05423000	W B ROCK R NR WAUPUN WIS	434005	0883910	WI	039	STREAM	1968	1970		*				GS
26	M	66137		KOHLSVILLE R	4328	08818	WI	131	STREAM	1964			7				YOO
26	M	51230	05424000	E B ROCK R NR MAYVILLE WIS	433145	0883400	WI	027	STREAM	1964	1970		*				GS
26	H	51231	05426000	CRAWFISH R AT MILFORD WI	430600	0885058	WI	055	STREAM	1954			5				GS
26	M	67720	05427800	TOKEN C NR MADISON WI	431052	0891928	WI	025	STREAM	1968	1970		*				GS
26	M	82660	05427948	PHEASANT B AT MIDDLETON WI	433612	0893042	WI	025	STREAM	1974			2	7	7		GS
26	M	82661	05427970	WILLOW C AT MADISON WI	430427	0892521	WI	025	DRAIN	1973			2	5	6		GS
26	M	51232	05430500	ROCK R AT AFTON WI	423633	0890414	WI	105	STREAM	1954			*				GS
26	M	74572	05431500	TURTLE C NR CLINTON WI	423547	0885150	WI	105	STREAM	1940			5	5			GS
26	J	51233	05432500	PECATONICA R AT DARLINGTON WI	424040	0900707	WI	065	STREAM	1954			5	7	7		GS
26	J	51234	05433000	EB PECATONICA R NR BLANCHARDVILLE W	424710	0895140	WI	065	STREAM	1954			*				GS
26	J	74573	05434500	PECATONICA R AT MARTINTOWN WI	423034	0894758	WI	045	STREAM	1940			5	5			GS
26	I	51235	05436500	SUGAR R NR BRODHEAD WI	423642	0892353	WI	045	STREAM	1954			5				GS
25	D	52048	05449500	IOWA R NR ROWAN IA	424536	0933723	IA	197	STREAM	1957		*	*	*	*		GS
25	D	54609		IOWA R AT MARSHALLTOWN IOWA	420405	0925405	IA	127	STREAM	1944	1967		3	8			CE
25	D	54615		IOWA R AT MARENGO IOWA	414835	0920420	IA	095	STREAM	1957			3	8			CE
25	D	54602		CORALVILLE RE NR CORALVILLE IA	414320	0913130	IA	103	RESER	1964			3	8			CE
25	D	54619		CORALVILLE RE RESEARCH IOWA	414320	0913130	IA	103	RESER	1964			3	8			CE
25	D	52047	05454000	RAPID C NR IOWA CITY IA	414119	0912915	IA	103	STREAM	1948			5				GS
25	D	52046	05454300	CLEAR C NR CORALVILLE IA	414036	0913555	IA	103	STREAM	1964			5				GS
25	D	52045	05454500	IOWA R AT IOWA CITY IA	413924	0913227	IA	103	STREAM	1906		*	3	6	7		GS
25	D	52044	05455000	RALSTON C AT IOWA CITY	413950	0913048	IA	103	STREAM	1952			3	6	7		GS
25	D	67627	05455010	S BR RALSTON C AT IOWA CITY IA	413905	0913027	IA	103	STREAM	1967	1973		5				GS
25	D	52043	05455500	ENGLISH R AT KALONA IA	412759	0914256	IA	183	STREAM	1946	1973		5				GS
25	C	57068	R CE-27	RED CEDAR R	434405	0925707	MN	099	STREAM	1967						5	L11
25	C	63310	05457000	CEDAR R NR AUSTIN MN	433810	0925820	MN	047	STREAM	1961		*	2	7	7		GS
25	C	57067	R CE-12	RED CEDAR R	433626	0925911	MN	099	STREAM	1967						5	L11
25	C	57066	R CE-0	RED CEDAR R	433000	0930007	MN	099	STREAM	1953		*				5	L11
25	C	57065	DC-0	DEER C	433000	0930737	MN	047	STREAM	1960	1968					5	L11

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NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
25	B	57063	FOU L	FOUNTAIN LK	433903	0932140	MN	047	LAKE	1967						5	L11
25	B	57064	SR-1.5	SHELL ROCK R	433000	0931601	MN	047	STREAM	1960		*				5	L11
25	C	67626	05464130	FOURMILE C NR LINCOLN IA	421332	0923639	IA	171	STREAM	1969	1974		3	7	7		GS
25	C	67625	05464133	HALF MILE C NR GLADBROOK IA	421240	0923639	IA	171	STREAM	1969			3	7	7		GS
25	C	67624	05464137	FOURMILE C NR TRAER IA	421207	0923344	IA	171	STREAM	1969			3	7	7		GS
25	C	73595	05464500	CEDAR R AT CEDAR RAPIDS IA	415814	0914001	IA	113	STREAM	1906	1973		*	*	*		GS
25	G	54603		MISSISSIPPI R AT BURLINGTON IOWA	404753	0910539	IA	057	STREAM	1942			3	8			CE
25	F	70184	7 SK U	UPPER SKUNK RIVER	420124	0933540	IA	169	STREAM	1962						6	ERD
25	F	70186	5 SQ U	UPPER SQUAW CREEK	420414	0934016	IA	169	STREAM	1962						6	ERD
25	F	70188	3 ON U	UPPER CNION CREEK	420244	0934033	IA	169	STREAM	1962						6	ERD
25	F	70187	4 ON D	ONICN CREEK DOWN STREAM	420241	0933956	IA	169	STREAM	1962						6	ERD
25	F	70190	1 DD U	UPPER DRAINAGE DITCH	420218	0933959	IA	169	STREAM	1962						6	ERD
25	F	70189	2 DD D	DRAINAGE DITCH DOWN STREAM	420218	0933959	IA	169	STREAM	1962						6	ERD
25	F	70182	9 CC	CLEAR CREEK	420146	0933920	IA	169	STREAM	1962						6	ERD
25	F	70185	6 SQ D	SQUAW CREEK DOWN STREAM	420143	0933739	IA	169	STREAM	1962						6	ERD
25	F	65986		S SKUNK R BL SQUAW C NR AMES IOWA	420030	0933540	IA	169	STREAM	1967			3	8			CE
25	F	70181	11 SK S	SKUNK R SEWAGE PLANT OUTFALL	420016	0933610	IA	169	STREAM	1962						5	ERD
25	F	70183	8 SK D	SKUNK RIVER DOWN STREAM	415827	0933445	IA	169	STREAM	1962	1963	*				6	ERD
25	F	70197	IWL POND	IZAAC WALTON LEAGUE POND	420228	0933519	IA	169	OTHER	1966						6	ERD
25	F	70199	TODD POND	TODO POND	420531	0933719	IA	169	OTHER	1966						6	ERD
25	F	70198	KELLY PCND	KELLY POND	415649	0933715	IA	169	OTHER	1966						6	ERD
25	E	52041	05472500	N SKUNK R NR SIGOURNEY IA	411803	0921216	IA	107	STREAM	1946	1973		5				GS
25	Q	54614		MISSISSIPPI R AT KEOKUK IOWA	402335	0912225	IA	111	STREAM	1943			3	8			CE
25	H	57061	WDM-54	WF DES MOINES R	435819	0953101	MN	101	STREAM	1967	1968					5	L11
25	H	63311	05476000	DES MOINES R AT JACKSON MN	433710	0945910	MN	063	STREAM	1967			2	7	7		GS
25	H	57062	WDM-3	WF DES MOINES R	433120	0945455	MN	063	STREAM	1953		*				5	L11
25	I	57060	EDM-6	EF DES MOINES R	433312	0943657	MN	091	STREAM	1967						5	L11
25	I	57102	CEC-16	CENTER CREEK	433310	0943657	MN	091	STREAM	1967	1968					5	L11
25	M	65984		DES MOINES R NR STRATFORD IOWA	421515	0935950	IA	187	STREAM	1968			3	8			CE
25	M	70191	10 DM	DES MOINES RIVER	420700	0935600	IA	015	STREAM	1962						6	ERD
25	M	54613		DES MOINES R NR BOONE IOWA	420440	0935555	IA	015	STREAM	1940			3	8			CE
25	M	56920	05481650	DES MOINES R NR SAYLORVILLE IOWA	414150	0934007	IA	153	STREAM	1961			3	6	7		GS
25	L	52039	05483000	EF HARDIN C NR CHURDAN IOWA	420627	0942212	IA	073	STREAM	1952			*	*	*		GS
25	K	52038	05483600	M RACCOON R AT PANORA IOWA	414114	0942215	IA	077	STREAM	1965			*				GS
25	K	54617		RACCOON R AT VAN METER IOWA	413200	0935710	IA	049	STREAM	1940			3	8			CE
25	N	73610	05485500	DES MOINES R BL RAC R AT DES M IA	413430	0933548	IA	153	STREAM	1944	1973	*	*	*	*		GS
25	N	54606		NORTH R NR NORWALK IOWA	412725	0933910	IA	181	STREAM	1962			3	8			CE
25	N	65585		MIDDLE R NR INDIANOLA IOWA	412525	0933505	IA	181	STREAM	1967			3	8			CE
25	N	52037	05486490	MIDDLE R NR INDIANOLA IOWA	412527	0933509	IA	181	STREAM	1962	1973		*	*	*		GS
25	N	54607		SOUTH R NR ACKWORTH IOWA	412015	0932905	IA	181	STREAM	1962			3	8			CE

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD BEGAN	PERIOD OF RECORD DISCON-TINUED	INTERRUPTED RECORD	SEDIMENT CONCENTRATION (SUSPENDED)	SEDIMENT PARTICLE SIZE (SUSPENDED)	SEDIMENT PARTICLE SIZE (BED MATERIAL)	SEDIMENT OTHER	AGENCY REPORTING
25	N	54608		WHITEBREAST C NR DALLAS IOWA	411445	0931550	IA	125	STREAM	1962	1967		3	8			CE
25	N	65368	05487980	WHITE BREAST C NR DALLAS IOWA	411441	0931608	IA	125	STREAM	1967	1973		3	6	6		GS
25	N	54605		DES MOINES R NR TRACY IOWA	411655	0925130	IA	123	STREAM	1940			3	8			CF
25	Q	65299	K 39	QUINCY CITY WWKS MISS R	3956	09125	IL	001	STREAM	1968	1972					*	G00
25	Q	54604		MISSISSIPPI R AT HANNIBAL MISSOURI	394324	0912149	MO	127	STREAM	1943			3	8			CE
25	Q	54618		HADLEY C AT KINDERHOOK ILLINOIS	394135	0910855	IL	149	STREAM	1940			3	8			CE
25	P	54563	SJ 63	SALT R AT JOANNA MO	393225	0914020	MO	137	STREAM	1939			*	*			CE
24	A	54616		BAY C AT NEBO ILL	392635	0904745	IL	149	STREAM	1942			3	8			CE
24	D	51815	05518000	KANKAKEE R AT SHELBY IN	411058	0872033	IN	089	STREAM	1963	1968		*	*			GS
24	B	66867	05524500	IROQUOIS R NR FORESMAN IN	405214	0871824	IN	111	STREAM	1968			5	5	7		GS
24	E	67719	05543830	FOX R AT WAUKESHA WI	430017	0881437	WI	133	STREAM	1963			5	7	7		GS
24	I	70531	05570350	BIG C AT ST DAVID IL	402951	0900312	IL	057	STREAM	1971			4	6			GS
24	H	70529	05570370	BIG C NR BRYANT IL	402732	0900800	IL	057	STREAM	1971			4	6			GS
24	J	85208		SANGAMON R NR OAKLEY IL	395509	0884809	IL	115	STREAM	1972			5	5	5		CE
24	J	85358		SANGAMON R NR OAKLEY IL	395509	0884809	IL	115	STREAM	1972			5	5	5		CE
24	O	85491	05585500	ILLINOIS R AT MEREDOSIA IL	394924	0903405	IL	137	STREAM	1973			5	5			GS
24	P	54659	11	MISSOURI R HERMANN MO	384236	0912621	MO	073	STREAM	1948			4	5		*	CE
24	P	66936	06934500	MISSOURI R AT HERMANN MO	384236	0912621	MO	073	STREAM	1969			5				GS
24	T	51870	07010000	MISSISSIPPI R AT ST LOUIS MO	383744	0901047	MO	189	STREAM	1948			4	6	6		GS
24	S	59230		MERAMEC SPRING MO	375710	0913200	MO	161	SPRING	1965			8				MO2
24	S	66539	07019000	MERAMEC R NR EUREKA MO	383020	0903527	MO	189	STREAM	1945			3				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCON-TINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN: 07																	
TOTAL :		221															

LOWER MISSISSIPPI REGION 08

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
16	G	54916	202803	MISSISSIPPI R HICKMAN KY MI 920.5	363445	0891400	TN	075	STREAM	1965	1967		*	*			EPA
16	N	54921	471042	WOLF R AT THOMAS ST BRDGE HWY 51 TN	351120	0900210	TN	157	STREAM	1964	1967		*	*			EPA
16	R	54915	470020	MISSISSIPPI R MEMPHIS TENN MI 735.2	350500	0900415	TN	157	STREAM	1965	1967		*	*			EPA
16	Q	85493	07047800	ST FRANCIS R AT PARKIN AR	351623	0903333	AR	037	STREAM	1955			5	5			GS
16	Q	83638	07047900	ST FRANCIS BAY AT RIVERFRONT AR	351534	0934048	AR	037	STREAM	1955			5	5			GS
15	D	54926	040000	ARKANSAS R AT YANCOPIN AR	335720	0911215	AR	041	STREAM	1965	1967			*			EPA
44	M	86734		SOUTHEAST WHITE COUNTY - SEARCY	351500	0914500	AR	145	STREAM	1972			8			8	B50
49	G	58221		NASHVILLE ARK			AR	061	RESER	1935			8			8	B50
15	B	54925	040001	WHITE R NEAR BENZAL AR	335955	0910930	AR	041	STREAM	1965	1967		*	*			EPA
15	F	56833		SARDIS RE MISS	342357	0894710	MS	107	RESER	1964						8	CE
15	E	67996		ARKABUTLA RESERVOIR	344526	0900727	MS	033	RESER	1969						8	CE
15	G	67995		GRENADA RESERVOIR	334831	0894614	MS	043	RESER	1969						8	CE
15	J	54924	277002	YAZOO R BELOW REDWOOD MS	322915	0904900	MS	049	STREAM	1965	1967			*			EPA
15	Z	85496	07289000	MISSISSIPPI R AT VICKSBURG MS	321845	0905425	MS	149	STREAM	1973			5				GS
15	Z	54907	277000	MISS R AT VICKSBURG MILE 435.3 MS	321830	0905430	MS	149	STREAM	1965	1967		*	*			EPA
15	Z	54913	270021A	MISSISSIPPI R VICKSBURG MISS	321830	0905430	MS	149	STREAM	1965	1967		*	*			EPA
15	K	54923	270000	BIG BLACK R NEAR US HIGHWAY 61 MS	320455	0905615	MS	163	STREAM	1965	1967			*			EPA
14	D	54881	01020	MISS R NR COOCHIE LA	310552	0913612	LA	029	STREAM	1962			5	5	5		CE
14	D	54880	01100	MISS R AT TARBERT LDG MISS	310030	0913725	MS	157	STREAM	1959			5	5	5		CE
14	D	54912	210137	MISSISSIPPI R AT TARBERT LANDING LA	310020	0913730	LA	029	STREAM	1965	1967			*			EPA
14	D	69364	01120	MISS R AT RED R LANDING LA	305739	0913952	LA	077	STREAM	1958		*	*	*	*		CE
14	E	54908	210001	MISS R-NEW ORLEANS-H P LONG BR LA	295645	0901010	NV	051	STREAM	1965	1967			*			EPA
14	E	54910	210020A	MISSISSIPPI R AT NEW ORLEANS LA	295635	0901010	NV	051	STREAM	1965	1967			*			EPA
14	G	54902	85475	TANGIPAHOA R NR PONCHATOULA LA	302637	0902004	LA	105	STREAM	1965	1967		5				CE
14	F	53870	07378500	AMITE R NR DENHAM SPRINGS LA	302750	0905925	LA	063	STREAM	1944		*	*				GS
14	E	86723	85683	LK PONTCHARTRAIN AT NORTH SHORE LA	301300	0894930	LA	071	LAKE	1957		*	3				CE
14	E	69373	85754	MRGO AT BAYOU BIENVENUE LA	300000	0895448	LA	087	CANAL	1963			5		8		CE
14	E	69372	85760	MRGO AT BAYOU VILLERE LA	295810	0895235	LA	087	CANAL	1963			5		8		CE
14	E	69371	85764	MRGO AT BAYOU DUPRE LA	295630	0895030	LA	087	CANAL	1963			5		8		CE
14	E	69369	85772	MRGO AT NAV LT 110 LA MILE 48.0	295415	0894700	LA	087	CANAL	1963			5		8		CE
14	E	69370	85773	MRGO AT FLAT BAYOU LA	295240	0894400	LA	087	CANAL	1963			5		8		CE
14	E	69374	85790	MRGO AT BAYOU YSCLOSKEY LA	295124	0894040	LA	087	CANAL	1963			5		8		CE
14	E	69380	85805	MRGO AT NAV LT 103 LA MILE 38.2	295125	0893715	LA	087	CANAL	1961			5		8		CE
14	E	69379	85815	MRGO AT NAV LT 102 LA MILE 35.4	294900	0893510	LA	087	CANAL	1961			5		8		CE
14	E	69378	85820	MRGO AT NAV LT 101 LA MILE 32.5	294731	0893309	LA	087	CANAL	1961			5		8		CE
14	E	69377	85830	MRGO AT NAV LT 99 LA MILE 29.8	294600	0893100	LA	087	CANAL	1961			5		8		CE
14	E	69376	85840	MRGO AT LK ATHANASIO MILE 25.6	294330	0892724	LA	087	CANAL	1961			5		8		CE
14	E	69375	85852	MRGO NR GARDNER IS LA MILE 20	294110	0892235	LA	087	CANAL	1960			5		8		CE
14	E	69381	85854	MRGO AT STA 2619 LA MILE 16.4	293824	0892000	LA	087	CANAL	1966			5		8		CE
14	E	69382	85855	MRGO AT TOWER 1 LA MILE 12.2	293615	0891700	LA	087	CANAL	1962			5		8		CE

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
14	E	69383	85856	MRGO AT TOWER 2 LA MILE 9.5	293412	0891404	LA	087	CANAL	1966			5		8		CE
14	E	69384	85858	MRGO AT TOWER 3 LA MILE 6.0	293255	0891215	LA	087	CANAL	1962			5		8		CE
14	E	69385	85860	MRGO AT TOWER 4 LA MILE 3.0	293121	0891000	LA	087	CANAL	1967			5		8		CE
14	E	53877	07380400	BA LAFCURCHE AT DONALDSONVILLE LA	300600	0905840	LA	005	STREAM	1956			5				GS
14	E	53878	07380450	BAYOU LAFOURCHE AT BELLEROSE LA	300300	0910227	LA	007	STREAM	1957			5	7			GS
14	E	53880	07380800	BAYOU LAFOURCHE AT LABADIEVILLE LA	295025	0905715	LA	007	STREAM	1958			5	7			GS
14	E	53881	07381000	BA LAFOURCHE AT THIBODAUX LA	294752	0904921	LA	057	ESTARY	1954			5				GS
14	E	53882	07381100	BAYOU LAFOURCHE AT RACELAND LA	294340	0903531	LA	057	STREAM	1960			5	7			GS
14	E	86724	76320	INTRACOASTAL WATERWAY AT HOUMA LA	293550	0904237	LA	109	CANAL	1946		*	3				CE
14	C	86725	04450	RED R AT COLFAX LA	313058	0924313	LA	069	STREAM	1972			3				CE
14	C	54883	04600	RED RIVER AT ALEXANDRIA LA	311846	0922634	LA	079	STREAM	1951		*	3	5	5		CE
15	N	58206		MENA ARK			AR	113	RESER	1937			8			8	850
15	N	58216		MOUNT ICA ARK			AR	097	STREAM	1948			8			8	850
15	N	86735		BURCHWOOD BAY - HOT SPRINGS	343000	0930500	AR	051	STREAM	1972			8			8	850
15	N	86736		MAGNET-BUTTERFIELD-MALVERN	342300	0925000	AR	059	STREAM	1971			8			8	850
15	N	86737		JONES MILL	342800	0925600	AR	059	STREAM	1943			8			8	850
15	N	58148		HOT SPRINGS ARK			AR	051	RESER	1938		*	8			8	850
15	N	67992		BLAKELY MT RESERVOIR	343420	0931150	AR	051	RESER	1969						8	CE
15	N	58225		NORMAN ARK			AR	097	STREAM	1935		*	8			8	850
15	N	58217		MOUNTAIN PINE ARK			AR	051	RESER	1947			8			8	850
15	N	58193		MALVERN ARK			AR	059	STREAM	1935			8			8	850
15	N	58024		AMITY ARK			AR	019	STREAM	1958			8			8	850
15	N	58025		ARKADELPHIA ARK			AR	019	STREAM	1935			8			8	850
15	M	58220		MURFREESBORO ARK			AR	109	OTHER	1936		*	8			8	850
15	N	58120		GLENWOOD ARK			AR	109	STREAM	1936		*	8			8	850
15	N	58088		DELIGHT ARK			AR	109	STREAM	1960			8			8	850
15	M	86738		MOUNT MORIAH - MURFREESBORO	340400	0934000	AR	109	STREAM	1971			8			8	850
15	N	58061		CAMDEN ARK			AR	103	STREAM	1936			8			8	850
15	O	58041		BENTON ARK			AR	125	STREAM	1935			8			8	850
15	O	86739		SALEM - BENTON	343600	0923400	AR	125	STREAM	1970			8			8	850
15	O	86740		WEST BAUXITE - BENTON	343300	0923100	AR	125	STREAM	1969			8			8	850
15	O	58036		BAUXITE ARK			AR	125	STREAM	1939			8			8	850
14	B	53819	07373000	BIG C AT POLLOCK LA	313210	0922430	LA	043	STREAM	1959		*	8				GS
14	D	54779	02050	OLD R INFLOW CH NR KNOX LDG LA	310440	0913549	LA	029	CANAL	1961			5	5	5		CE
14	N	54778	02600	OLD R OUTFLOW CH NR KNOX LDG LA	310355	0914125	LA	029	CANAL	1963			5	5	5		CE
14	C	54884	04800	RED R ABOVE OLD R OUTFLOW CH LA	310408	0914245	LA	029	STREAM	1963			5	5	5		CE
14	I	54776	03045	ATCHAFALAYA R AT SIMMESPORT LA	305857	0914754	LA	009	STREAM	1951			3	5	5		CE
14	I	54927	210120	ATCHAFALAYA R AT SIMMESPORT LA	305800	0914830	LA	009	STREAM	1965	1967			*			EPA
14	I	54758	03780	LOWER ATCH R AT MORGAN CITY LA	294140	0911239	LA	101	STREAM	1946			3	2	2		CE
14	I	54928	210131	ATCHAFALAYA R AT MORGAN CITY LA	294145	0911230	LA	101	STREAM	1965	1967			*			EPA
14	I	68001	03720	WAX LAKE OUTLET AT CALUMET LA	294209	0912207	LA	101	CANAL	1949			3	5	5		CE
14	J	86731	76720	INTRACOASTAL WWY VERMILION LOCK E	294700	0921140	LA	113	CANAL	1949		*	3				CE
14	J	86730	76600	SCHOONER BY AT CTR STR LA EAST	294528	0921548	LA	113	STREAM	1947		*	3				CE

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCON-TINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN :		08															
TOTAL :			03														

SOURIS-RED-RAINY REGION 09

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
30	A	57140	OT-67	OTTERTAIL R	461837	0960030	MN	111	STREAM	1967	1968					5	L11
30	A	63281	05040500	PELICAN R NR FERGUS FALLS MN	462010	0960710	MN	111	STREAM	1968	1970		2	2			GS
30	A	57139	OT-49	OTTERTAIL R	461627	0960802	MN	111	STREAM	1967	1968					5	L11
30	A	57138	OT-1	OTTERTAIL R	461559	0963535	MN	167	STREAM	1953						5	L11
30	C	57145	BS-0.1	BOIS DE SIOUX R	461549	0963602	MN	167	STREAM	1962						5	L11
30	I	57144	RE-459	RED R OF THE N	465130	0964627	MN	027	STREAM	1953	1971					5	L11
30	L	72947	RE 452	RED RIVER AT FARGO MOORHEAD	465226	0964634	MN	027	STREAM	1971						5	L11
30	I	63282	05062000	BUFFALO R NR DILWORTH MN	465740	0963940	MN	027	STREAM	1962		*	2				GS
30	J	82192	05062500	WILD RICE R AT TWIN VALLEY MN	471600	0961440	MN	107	STREAM	1971			2				GS
30	I	72946	SBR 3	STINKING BUFFALO R AT GEORGETOWN	470431	0964703	MN	027	STREAM	1971						5	L11
30	L	57143	RE-403	RED R OF THE N	471049	0964927	MN	107	STREAM	1967						5	L11
30	J	72945	WI-2.9	WILD RICE R NORTH OF HENDRUM	471721	0964842	MN	107	STREAM	1971						5	L11
30	K	50540	05064900	BEAVER C NR FINLEY ND	473540	0974218	ND	091	STREAM	1965			5	6	6		GS
30	O	57137	RL-0.2	RED LAKE R	475524	0970057	MN	119	STREAM	1953						5	L11
30	L	57142	RE-296	RED R OF THE N	475535	0970147	MN	107	STREAM	1967						5	L11
30	W	57141	RE-274	RED R OF THE N	481146	0970807	MN	089	STREAM	1960						5	L11
30	R	72944	SK 1.8	SNAKE RIVER NORTH OF BIG UOODS	482449	0970625	MN	089	STREAM	1971						5	L11
30	R	63285	05087500	MIDDLE R AT ARGYLE MN	482027	0964902	MN	089	STREAM	1954	1970		2	7	7		GS
30	T	72943	TMB-18.7	MB TWO RIVERS NORTH OF HALLOCK	484724	0965724	MN	069	STREAM	1971						5	L11
30	U	66049	05099380	PEMBINA R NR VANG N DAK	485500	0980323	ND	019	STREAM	1962			6	6			GS
30	U	50542	05099400	L PEMBINA R NR WALHALLA ND	485155	0980020	ND	019	STREAM	1962			6	6			GS
30	U	50543	05099600	PEMBINA R AT WALHALLA ND	485450	0975500	ND	067	STREAM	1962			3	6	6		GS
30	W	65987	RE-155	RED R OF THE NORTH	490000	0971350	MN	069	STREAM	1968						5	L11
30	V	57136	ROS-121	ROSEAU R	484701	0954405	MN	135	STREAM	1967	1968					5	L11
30	V	57135	ROS-55	ROSEAU R	485852	0962655	MN	069	STREAM	1967	1968					5	L11
39	C	73265	05116000	SOURIS R NR FOXHOLM ND	482220	1013018	ND	101	STREAM	1970			6	6	6		GS
39	C	56367	05124000	SOURIS R NR WESTHOPE ND	485947	1005729	ND	009	STREAM	1954		*	6				GS
29	E	57129	SA-L	SAGANAGA LK	481158	0905315	MN	031	LAKE	1967	1968					5	L11
29	E	52748	05124480	KAWISHIWI R NR ELY MN	475522	0913206	MN	075	STREAM	1967			7				GS
29	E	57127	KA-10	KAWISHIWI R (SB)	474900	0914543	MN	075	STREAM	1967	1968					5	L11
29	E	57128	SH-2	SHAGAWA LK	475505	0914951	MN	137	LAKE	1967	1968					5	L11
29	E	57126	KA-0.1	KAWISHIWI R	475542	0914502	MN	075	STREAM	1967						5	L11
29	E	57130	CR-L	CRANE LK	482000	0922712	MN	137	LAKE	1967	1968					5	L11
29	F	72942	RA 85	INTERNATIONAL FALLS SEWAGE PLANT	483618	0932530	MN	071	STREAM	1971						5	L11
29	F	57134	RA-83.5	RAINY R	483632	0932357	MN	071	STREAM	1953						5	L11
29	F	57133	RA-75.0	RAINY R	483236	0932852	MN	071	STREAM	1953						5	L11
29	G	72941	LF 7 5	LITTLE FORK RIVER NEAR PELLAND	483121	0933506	MN	071	STREAM	1971						5	L11
29	H	72940	BF 5	BIG FORK RIVER EAST OF LOMAN	483045	0934236	MN	071	STREAM	1971						5	L11
29	J	72948	RS-0.4	SB RAPID R AT CLEMENTSON	484133	0942548	MN	077	STREAM	1971						5	L11
29	K	57132	RA-12.1	RAINY R	484300	0943522	MN	077	STREAM	1953						5	L11
29	K	57131	L-O-W	LAKE OF THE WOODS	485746	0950434	MN	077	LAKE	1967	1968					5	L11

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCONTINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN:		09															
TOTAL:		41															

MISSOURI BASIN REGION 10

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD BEGAN	PERIOD OF RECORD DISCONTINUED	INTERRUPTED RECORD	SEDIMENT CONCENTRATION (SUSPENDED)	SEDIMENT PARTICLE SIZE (SUSPENDED)	SEDIMENT PARTICLE SIZE (BED MATERIAL)	SEDIMENT OTHER	AGENCY REPORTING
41	B	76468	06015400	BEAVERHEAD R NR GRANT MT	450012	1125110	MT	001	STREAM	1963	1971		*				GS
41	B	51095	06016000	BEAVERHEAD R AT BARRETTS MT	450659	1124459	MT	001	STREAM	1949		*	*				GS
41	B	51096	06018500	BEAVERHEAD R NR TWIN BRIDGES MT	452301	1122707	MT	057	STREAM	1949		*	3				GS
41	H	65027	11	SPANISH AUTOMATIC SED SAMPLER	4530	11117	MT	031	STREAM	1968			1				FS
41	G	51097	06026500	JEFFERSON R NR TWIN BRIDGES MT	453650	1121945	MT	057	STREAM	1957	1972	*	3	3			GS
41	G	74312	06027200	JEFFERSON R AT SILVER STAR, MT.	454110	1121659	MT	057	STREAM	1972			3				GS
41	I	74322	06054500	MISSOURI R AT TOSTON MT	460846	1112518	MT	007	STREAM	1949			*				GS
41	I	65025		TENMILE C AT RIMINI MONT	4629	11215	MT	049	STREAM	1967	1969		5				FS
41	QJ	51098	06071080	SIEBEN D BL CLARK C NR WOLF CREEK M	465357	1120719	MT	049	STREAM	1962	1966		5				GS
41	I	51099	06071100	L PRICKLY PEAR C AT SIEBEN RCH NR W	465350	1120740	MT	049	STREAM	1962	1966		3				GS
41	QJ	51100	06071130	L PRICKLY PEAR C AB MED ROCK C NR W	465507	1120713	MT	049	STREAM	1962	1966		5				GS
41	I	51101	06071180	MEDICINE ROCK C NR WOLF CREEK MT	465606	1120736	MT	049	STREAM	1962	1967		5				GS
41	I	51102	06071200	LYONS C NR WOLF CREEK MONT	465618	1120729	MT	049	STREAM	1962	1967		5				GS
41	I	51103	06071220	L PRICKLY PEAR C NR WOLF CREEK MT	465625	1120718	MT	049	STREAM	1964	1967		5				GS
41	I	51104	06071240	SHEEP C NR WOLF CREEK MONT	475839	1120448	MT	049	STREAM	1962	1967		5				GS
41	QJ	51105	06071290	WOLF C NR WOLF CREEK MT	470022	1120446	MT	049	STREAM	1962	1966		5				GS
41	I	51106	06071300	L PRICKLY PEAR C AT WOLF CREEK MT	700201	120409	MT	049	STREAM	1962	1967		3	8			GS
41	J	85233		NEWLAND C NR WHITE SULPHUR SPRINGS	4638	11055	MT	059	STREAM	1972			8				SCS
41	K	66984	06088300	MUDDY C NR VAUGHN MONT	473730	1113805	MT	013	STREAM	1968			3	8			GS
41	K	74324	06088500	MUDDY C AT VAUGHN MT	473342	1113233	MT	013	STREAM	1967			3	6			GS
41	U	54729	007	MISSOURI R AT VIRGELLE MONT	480014	1101519	MT	015	STREAM	1962	1969		5	5		*	CE
40	E	54728	293007	MISSOURI R NR LANDUSKY MONT	474351	1085605	MT	027	STREAM	1948	1972		6	6		6	CE
40	E	74327	06115200	MISSOURI R NR LANDUSKY MT	473751	1084113	MT	027	STREAM	1972			3	5	5		GS
40	B	51108	06127600	MUSSELSHELL R NR MOSBY MT	465600	1075500	MT	069	STREAM	1962	1966		3	3			GS
40	B	51109	06130000	FLATWILLOW C NR MOSBY MT	465550	1075640	MT	069	STREAM	1964	1966		3	3			GS
40	S	54724	293003	MISSOURI R AT FT PECK DAM MT	480042	1062536	MT	105	RESER	1957			4				CE
40	O	54737	031	MILK R AT NASHUA MONT	480750	1062150	MT	105	STREAM	1948	1969		5	5		*	CE
40	S	54730	041	MISSOURI R NR WOLF POINT MONT	4804	10532	MT	055	STREAM	1948	1970		5	5			CE
40	S	51115	06185500	MISSOURI R NR CULBERTSON MT	480724	1042830	MT	083	STREAM	1965		*	3	5	5		GS
40	S	54731	051	MISSOURI R NR CULBERTSON MT	480720	1042820	MT	083	STREAM	1949	1973	*	*	*		*	CE
41	B	83052	06189910	GLEN C AB MAMMOTH INTAKE NR MAMMOTH	445640	1104218	WY	029	STREAM	1968	1970		6				GS
41	B	83053	06189980	LAVA C AB LUPINE C NR MAMMOTH YELLO	445622	1103736	WY	029	STREAM	1967	1970		6				GS
43	B	74065	06157500	BOULDER R NR CONTACT MT	453317	1101200	MT	097	STREAM	1970	1973		5				GS
43	C	74066	06202530	STILLWATER R AB W F AT NYE MT	452607	1094746	MT	095	STREAM	1970	1973		5				GS
43	C	74351	06202597	CASTLE C NR NYE MT	452717	1095048	MT	095	STREAM	1972	1973		5				GS
43	C	74352	06202598	W F STILLWATER R NR NYE, MT	452717	1095040	MT	095	STREAM	1970	1973		5				GS
43	C	66991	06202600	STILLWATER R AT NYE MT	452616	1094727	MT	095	STREAM	1969	1970		*				GS
43	C	74353	06202610	STILLWATER R AT BEEHIVE MT	452840	1094336	MT	095	STREAM	1970	1973		3				GS
43	C	74067	06202598	W F STILLWATER R NR NYE MT	452717	1095040	MT	095	STREAM	1970			5	8			GS
43	C	68860	06202610	STILLWATER R AT BEEHIVE MONT	452840	1094336	MT	095	STREAM	1970			3	8			GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
43	D	82662	06207507	BIG SAND CL AB STATE D NR BADGER BA	445530	1090038	WY	029	STREAM	1973			2	6	7		GS
43	D	83124	06207510	BIG SAND CL AT WY-MT STATE LINE	450016	1090332	WY	009	STREAM	1973			2	6	7		GS
43	D	66992	06207540	SILVER TIP C NR BELFRY MT	450930	1085830	MT	009	STREAM	1968			5	6			GS
43	D	51117	06207700	NF BLUEWATER C NR BRIDGER MT	451845	1084650	MT	009	STREAM	1960	1970		5				GS
43	D	51118	06207800	BLUEWATER C NR BRIDGER MT	451954	1084804	MT	009	STREAM	1960	1970		3	3			GS
43	D	51119	06207850	BLUEWATER C AT SANFORD REACH NR BRI	452015	1085007	MT	009	STREAM	1960	1970		3	3			GS
43	C	51120	06207870	BLUEWATER C NR FROMBERG MT	452154	1085201	MT	009	STREAM	1960	1970		3	3			GS
43	D	51121	06207900	BLUEWATER C AT FROMBERG MT	452258	1085403	MT	009	STREAM	1960	1970		4	4			GS
43	D	74333	06208500	CLARKS F YELLOWSTONE R AT EDGAR MT	452758	1085035	MT	009	STREAM	1972	1973		3	6			GS
43	H	73505	06225500	WIND R NR CROWHEART WY	431433	1090035	WY	013	STREAM	1971			5				GS
43	H	51020	06228000	WIND R AT RIVERTON WY	430038	1082233	WY	013	STREAM	1947		*	5	7			GS
43	F	63102	06235000	BEAVER C NR ARAPAHOE WY	425716	1082539	WY	013	STREAM	1950			5	6			GS
43	F	51022	06235500	L WIND R NR RIVERTON WY	425951	1082229	WY	013	STREAM	1949		*	7				GS
43	L	51024	06244500	FIVEMILE C AB WYOMING CA NR PAVILLI	431804	1084204	WY	013	STREAM	1949		*	2	7			GS
43	L	51025	06253000	FIVEMILE C NR SHOSHONI WY	431320	1081306	WY	013	STREAM	1948		*	3	7			GS
43	I	51026	06256650	BADWATER C AT LYSITE WY	431553	1074144	WY	013	STREAM	1965	1973		3	6			GS
43	I	51027	06256800	BRIDGER C NR LYSITE WY	431722	1074316	WY	013	STREAM	1965	1973		3	6			GS
43	I	51028	06256900	DRY C NR BONNEVILLE WY	431652	1075445	WY	013	STREAM	1965				7			GS
43	I	51029	06257000	BADWATER C AT BONNEVILLE WY	431609	1080446	WY	013	STREAM	1947	1973		3	6			GS
43	L	51030	06257500	MUDDY C NR PAVILLION WY	432146	1083608	WY	013	STREAM	1949	1973	*	2	6			GS
43	L	51031	06258000	MUDDY C NR SHOSHONI WY	431710	1081630	WY	013	STREAM	1949	1968		3	5			GS
43	L	73641	06259500	BIGHORN R AT THERMOPOLIS WY	4339	10812	WY	017	STREAM	1947	1970		5	6			GS
43	L	83078	06265500	COTTONWOOD C AT WINCHESTER WY	435145	1080910	WY	043	STREAM	1965	1966		7				GS
43	L	83076	06267000	GOOSEBERRY C AT NEIBER WY	435522	1080348	WY	043	STREAM	1951	1966		7	6			GS
43	L	51034	06268500	FIFTEEN MILE C NR WORLAND WY	440114	1080042	WY	043	STREAM	1951	1972		3	5			GS
43	L	51035	06268600	BIGHORN R AT WORLAND WY	434410	1080934	WY	043	STREAM	1965			3	6			GS
43	L	56307	06269000	BIGHORN R NR MANDERSON WY	4412	10755	WY	003	STREAM	1949	1970	*	3	6	7		GS
43	J	63101	06270000	NOWOOD R NR TEN SLEEP WY	440048	1072559	WY	043	STREAM	1967			5				GS
43	J	67143	06270450	CANYON C BL COOKS CANYON NR TEN SLE	440030	1071740	WY	043	STREAM	1969	1971		5	7			GS
43	L	81740	06274250	ELK C AR BASIN WY	441830	1080150	WY	003	STREAM	1949	1967		7				GS
43	P	51039	06279500	BIG HORN R AT KANE WY	444531	1081051	WY	003	STREAM	1946			6				GS
43	N	75955	06284010	SHOSHONE R BL WILLWOOD DAM NR RALST	444023	1085459	WY	029	STREAM	1972			7				GS
43	N	56308	06285100	SHOSHONE R NR LOVELL WY	445020	1082600	WY	003	STREAM	1966			5				GS
43	N	67133	06285500	SAGE C NR LOVELL WY	4451	10827	WY	003	STREAM	1949	1970		3	6			GS
43	N	51042	06286200	SHOSHONE R AT KANE WY	445145	1081230	WY	003	STREAM	1950	1968	*	3	6			GS
43	P	68791	06286258	BIG CL NR LOVELL WY	445804	1081724	WY	003	STREAM	1970			3	7			GS
43	P	63057	06288200	BEAUVAIS C NR ST XAVIER MT	452840	1080033	MT	003	STREAM	1967			5				GS
43	O	66997	06290500	L BIGHORN R BL PC NR WYOLA MT	451038	1072336	MT	003	STREAM	1969			3	6			GS
43	O	66998	06294000	L BIGHORN R NR HARDIN MT	454408	1073327	MT	003	STREAM	1969			3	6			GS
43	P	51125	06294700	BIGHORN R AT BIGHORN MT	460850	1072800	MT	103	STREAM	1945			*	*			GS

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NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
42	B	63098	06305500	GOOSE C BL SHERIDAN WYO	444925	1065740	WY	033	STREAM	1959		*	5				GS
42	C	51126	06308500	TONGUE R AT MILES CITY MT	462130	1054824	MT	017	STREAM	1946			*	*			GS
42	D	51043	06309500	M F POWDER R AB KAYCEE WY	433851	1064829	WY	019	STREAM	1949	1969	*	3	6			GS
42	H	67134	06312500	POWDER R NR KAYCEE WY	434135	1063148	WY	019	STREAM	1949			3	6			GS
42	H	56316	06313500	POWDER R AT SUSSEX WY	434153	1061751	WY	019	STREAM	1949	1968	*	7	6			GS
42	F	51044	06315000	N F CRAZY WOMAN C NR GREVB WY	440450	1063940	WY	019	STREAM	1965	1968		3	6			GS
42	H	63096	06317000	POWDER R AT ARVADA WY	443845	1060800	WY	033	STREAM	1946		*	5	5			GS
42	G	56310	06324000	CLEAR C NR ARVADA WY	445218	1060456	WY	033	STREAM	1949		*	3	5	6		GS
42	M	54738	111	YELLOWSTONE R NR SIDNEY MT	4737	10411	MT	083	STREAM	1937	1973		*	*		*	CE
42	M	51127	06329500	YELLOWSTONE R NR SIDNEY MT	474042	1040922	MT	083	STREAM	1948			3	5	5		GS
39	I	50545	06332515	BEAR DEN C NR MANDAREE ND	474714	1024605	ND	053	STREAM	1966			5				GS
39	H	73436	06335500	L MISSOURI R AT MARMARTH ND	461744	1035506	ND	087	STREAM	1945			5				GS
39	H	73306	06336000	L MISSOURI R AT MEDORA ND	465510	1033140	ND	007	STREAM	1946			3	6			GS
39	H	54739	370003	L MISSOURI R NR WATFORD CITY ND	473525	1031522	ND	053	STREAM	1948			*	*		*	CE
39	H	73437	06337000	L MISSOURI R NR WATFORD CITY ND	473525	1031505	ND	053	STREAM	1946			3	5	5		GS
39	M	54719	370002	MISSOURI R AT GARRISON DAM ND	473010	1012550	ND	057	RESER	1953			4				CE
39	J	54740	311	KNIFE R AT HAZEN N D	4717	10137	ND	057	STREAM	1948	1969		5	5		*	CE
39	J	73309	06339500	KNIFE R NR GOLDEN VALLEY ND	470940	1020339	ND	057	STREAM	1945			3	2			GS
39	J	73439	06340500	KNIFE R AT HAZEN ND	471706	1013726	ND	057	STREAM	1946			2	2			GS
39	M	54732	321	MISSOURI R AT BISMARCK ND	464891	1004912	ND	015	STREAM	1946	1973		*	*		*	CE
39	M	66051	06342500	MISSOURI R AT BISMARCK ND	464851	1004912	ND	015	STREAM	1966			3	5	5		GS
39	K	57514	DICKINSON	DICKINSON WATER TREATMENT PLANT	465211	1024937	ND	089	LAKE	1952			3				054
39	K	54741	370008	HEART R NR MANDAN N D	465002	1005827	ND	059	STREAM	1948	1973		*	*		*	CE
39	K	73441	06349000	HEART R NR MANDAN ND	465002	1005827	ND	059	STREAM	1949			3	5	5		GS
39	O	50546	06350000	CANNONBALL R AT REGENT ND	462536	1023305	ND	041	STREAM	1964		*	3	6	6		GS
39	O	73323	06351000	CANNONBALL R BL BENTLEY ND	462130	1020230	ND	037	STREAM	1946			3	2			GS
39	N	73326	06352500	CEDAR C NR PRETTY ROCK ND	460155	1014955	ND	037	STREAM	1945			3	2			GS
39	O	54742	370000	CANNONBALL R NR BREIEN N D	462300	1005600	ND	059	STREAM	1948		*	*	*		*	CE
39	O	73442	06354000	CANNONBALL R AT BREIEN ND	462233	1005603	ND	085	STREAM	1945			3	5	5		GS
39	R	54743	370070	NF GRAND R NR HALEY N D	455700	1030700	ND	011	STREAM	1962		*	*	*		*	CE
39	R	75181	06355000	NF GRAND R AT HALEY ND	455739	1030709	ND	011	STREAM	1950			5	2			GS
39	S	50555	06357500	GRAND R AT SHADEHILL SD	454525	1021141	SD	105	STREAM	1946	1968	*	*	*			GS
39	S	54753	460013	GRAND R NR L EAGLE S D	453942	1004835	SD	031	STREAM	1962			*	*		*	CE
39	U	66833	06357800	GRAND R AT LITTLE EAGLE, SD	453028	1004904	SD	031	STREAM	1956		*	3	5	5		GS
39	T	66828	06360500	MOREAU R. NR WHITEHORSE SD	451521	1005033	SD	041	STREAM	1959		*	3	5	5		GS
39	T	54744	460011	MOREAU R NR WHITEHORSE S D	451521	1005033	SD	041	STREAM	1959			*	*		*	CE
38	E	67137	06386500	CHEYENNE R NR SPENCER WY	4325	10408	WY	027	STREAM	1951			5	7			GS
38	E	50551	06400500	CHEYENNE R NR HOT SPRINGS SD	431819	1033343	SD	047	STREAM	1946	1968		3	3	3		GS
38	E	66841	06401500	CHEYENNE R BL ANGOSTURA DAM SD	432042	1032612	SD	047	STREAM	1951		*	*	*			GS
38	E	50557	06409000	CASTLE C AB DEERFIELD RE NR HILL CI	440049	1034948	SD	103	STREAM	1965			5	5			GS

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD BEGAN	PERIOD OF RECORD DISCONTINUED	INTERRUPTED RECORD	SEDIMENT CONCENTRATION (SUSPENDED)	SEDIMENT PARTICLE SIZE (SUSPENDED)	SEDIMENT PARTICLE SIZE (BED MATERIAL)	SEDIMENT OTHER	AGENCY REPORTING
38	G	67138	06430500	REDWATER C AT WY-SD STATE LINE	443426	1040254	SD	019	STREAM	1971			5	5			GS
38	H	50552	06436700	INDIAN C NR ARPAN SD	444851	1034122	SD	019	STREAM	1965	1969		*	*			GS
38	H	66832	06437000	BELLE FOURCHE R NR STURGIS SD	443047	1030811	SD	093	STREAM	1954		*	*	*			GS
38	H	66838	06438000	BELLE FOURCHE R NR ELM SPRINGS SD	442211	1023356	SD	093	STREAM	1946		*	*	*			GS
38	J	82194	06438500	CHEYENNE R NR PLAINVIEW, SD	443116	1015934	SD	137	STREAM	1967	1969		*				GS
38	K	54745	460010	CHEYENNE R NR CHERRY CR SD	443640	1012905	SD	137	STREAM	1968	1973	*	*	*		*	CE
38	K	84039	06439300	CHEYENNE R AT CHERRY CREEK SD	443610	1012924	SD	137	STREAM	1969			3	5	5		GS
38	K	82138	06439500	CHEYENNE R NR EAGLE BUTTE SD	444144	1011308	SD	055	STREAM	1945	1967		2	2	2		GS
37	I	82195	06440000	MISSOURI R AT PIERRE SD	442225	1002220	SD	117	STREAM	1951			5				GS
37	A	54746	460007	BAD R NR FT PIERRE S D	441940	1000200	SD	117	STREAM	1947	1973		*	*		*	CE
37	A	84040	06441500	BAD RIVER NR FORT PIERRE SD	441936	1002302	SD	117	STREAM	1946			3	5	5		GS
37	I	54726	531	MISSOURI R NR CHAMBERLAIN S D	434745	0992110	SD	015	RESER	1957						*	CE
37	B	50556	06445700	WHITE R AT SLIM BUTTE SD	430433	1024841	SD	113	STREAM	1963	1967		4	4	4		GS
37	B	50558	06446200	WHITE R NR ROCKYFORD SD	433052	1022930	SD	113	STREAM	1963	1967		4	4	4		GS
37	D	66839	06447000	WHITE R NR KADOKA SD	434509	1013128	SD	071	STREAM	1945	1970	*	3	2			GS
37	C	66826	06450500	L WHITE R BL WHITE RIVER SD	433604	1004452	SD	095	STREAM	1950	1970	*	3	2	5		GS
37	D	54747	460003	WHITE R NR RELIANCE S D	434455	0993320	SD	085	STREAM	1939			*	*		*	CE
37	D	66834	06452000	WHITE R NR OACOMA SD	434454	0993322	SD	085	STREAM	1939			3	5	5		GS
36	P	84072	06453000	MISSOURI R BLW FORT RANDALL DAM, SD	430354	0983311	SD	023	STREAM	1974			5				GS
37	E	56351	06453500	PONCA CR AT ANOKA NE	425625	0985030	NE	015	STREAM	1949	1967		5	5	5		GS
37	H	61584	1	SNAKE R AB SHELBOURN BRIDGE	423540	1010220	NE	031	STREAM	1967	1969		6				NOO
37	H	61585	2	SNAKE R BL MERRITT RE	423806	1005218	NE	031	STREAM	1967	1969		6				NOO
37	H	61587	1	SCHLAGEL C	4245	10033	NE	031	STREAM	1967	1969		6				NOO
37	H	50366	06462000	NIOBRARA R NR NORDEN NE	424713	1000206	NE	103	STREAM	1950			*	*	*		GS
37	H	61582	1	PLUM C AT AINSWORTH CA	423305	10007	NE	017	STREAM	1967	1969		6				NOO
37	H	61583	2	PLUM C AT BRIDGE 7 N JOHNSTOWN	4240	10003	NE	017	STREAM	1967	1969		6				NOO
37	H	61581	3	LONG PINE C AB WILLOW C	4234	09942	NE	017	STREAM	1967	1969		5				NOO
37	H	61579	1	LONG PINE C AB 7 SPRINGS	4231	09943	NE	017	STREAM	1967	1969		5				NOO
37	H	61580	2	LONG PINE C AB HIWAY 20	4232	09943	NE	017	STREAM	1967	1969		5				NOO
37	H	67337	06463500	LONG PINE C NR RIVERVIEW NE	424120	0994120	NE	017	STREAM	1948			*	*	*		GS
37	H	50367	06465500	NIOBRARA R NR VERDEL NE	424425	0981245	NE	107	STREAM	1958			3	5	5		GS
37	H	54754	300202	NIOBRARA R NR VERDEL NEBR	424425	0981245	NE	107	STREAM	1961			*	*		*	CE
36	P	67988	300200	GAVINS PCINT POWER HOUSE	425100	0972900	NE	027	RESER	1968			5				CE
36	P	54733	621	MISSOURI R AT YANKTON S D	4252	09724	SD	135	STREAM	1939	1969		5	5		*	CE
36	P	66840	06467500	MISSOURI R AT YANKTON, SD	425158	0972337	SD	135	STREAM	1939		*	2	2	2		GS
36	E	69065	06473500	SF SNAKE C NR ATHOL S DAK	450304	0984414	SD	049	STREAM	1950	1972	*	5	5			GS
36	I	76183	06478720	VERMILLION R NR CHANCELLOR SD			SD	125	STREAM	1960	1967		7		7		GS
36	I	56370	06479000	VERMILLION R NR WAKONDA SD	425927	0965749	SD	027	STREAM	1960			*	*			GS
36	J	81512	06479438	BIG SIOUX R NR WATERTOWN SD	450022	0970953	SD	029	STREAM	1972			5				GS
36	J	69062	06479515	WILLOW C NR WATERTOWN SD	445417	0970331	SD	029	STREAM	1970	1974	*	5				GS

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD BEGAN	PERIOD OF RECORD DISCONTINUED	INTERRUPTED RECORD	SEDIMENT CONCENTRATION (SUSPENDED)	SEDIMENT PARTICLE SIZE (SUSPENDED)	SEDIMENT PARTICLE SIZE (BED MATERIAL)	SEDIMENT OTHER	AGENCY REPORTING
36	J	69061	06479529	STRAY HORSE C NR CASTLEWOOD SD	444352	0965723	SD	057	STREAM	1970			5				GS
36	J	69059	06479910	SIXMILE C NR BROOKINGS SD	442046	0964451	SD	011	STREAM	1970	1974		5				GS
36	L	56374	06480000	BIG SIOUX R NR BROOKINGS SD	441048	0964455	SD	101	STREAM	1960	1974		5				GS
36	L	66045	06481000	BIG SICUX R NR DELL RAPIDS SD	434725	0964442	SD	099	STREAM	1960			3	7	7		GS
36	L	56373	06481500	SKUNK C AT SIOUX FALLS SD	433201	0964726	SD	099	STREAM	1960	1974		5				GS
36	L	57069	PC-1.5	PIPESTONE C	435844	0962557	MN	117	STREAM	1962						5	L11
36	L	69058	06482610	SPLIT ROCK C AT CORSON SD	433659	0963354	SD	099	STREAM	1970	1974		5				GS
36	K	57071	RO-24	ROCK R	434603	0960756	MN	133	STREAM	1967	1971					5	L11
36	K	73417	06483500	ROCK R NR ROCK VALLEY IOWA	431158	0962022	IA	167	STREAM	1966	1973		*	*	*		GS
36	K	57070	RO-0	ROCK R	433000	0961107	MN	133	STREAM	1953						5	L11
36	P	54734	701	MISSOURI R AT SIOUX CITY IA	422910	0962445	IA	193	STREAM	1954	1972		*	*		*	CE
36	M	75469	06486000	MISSOURI R AT SIOUX CITY IOWA	422910	0962447	IA	193	STREAM	1971			3	6	6		GS
36	M	67621	06600500	FLOYD R AT JAMES IOWA	423436	0961843	IA	149	STREAM	1968	1973		3	6	7		GS
36	N	54750	731	MONONA HARRISON D NR TJRIN IOWA	415755	0955930	IA	133	STREAM	1939	1969	*	5	5		*	CE
36	O	73425	06606600	L SIOUX R AT CORRECTIONVILLE IOWA	422820	0954749	IA	193	STREAM	1950			*	*	*		GS
36	N	54748	741	L SIOUX R NR TURIN IOWA	415755	0955820	IA	133	STREAM	1939	1969	*	5	5		*	CE
36	O	54749	711	WF DITCH NR HOLLY SPRINGS IOWA	421534	0960441	IA	193	STREAM	1957	1967		5	5		*	CE
36	O	54723	721	WOLF C NR HOLLY SPRINGS IOWA	421557	0960245	IA	193	STREAM	1957	1967		5	5		*	CE
35	Q	73017		GINGLES WATCRSHEDS	4204	09551	IA	133	STREAM	1963			2				H06
35	Q	52036	06609200	STEER C NR MAGNOLIA, IA	414508	0955615	IA	085	STREAM	1963	1969		3	6			GS
35	A	86831	771	BOYER RIVER AT DELOIT IA	420540	0951842	IA	047	STREAM	1968			4	4	4		CE
35	A	86832	772	E F BOYER RIVER NR DENISON IA	420033	0952003	IA	047	STREAM	1968			4	4	4		CE
35	A	52035	06609500	BOYER R AT LOGAN IOWA	413833	0954657	IA	085	STREAM	1965	1973		5	7			GS
35	A	52034	06609590	THOMPSON C NR WOODBINE IOWA	414415	0954820	IA	085	STREAM	1963	1969		3	6			GS
35	A	75530	06609600	WILLOW C NR MISSOURI VALLEY IA	413754	0955327	IA	085	STREAM	1972			3	6	7		GS
35	Q	67331	06610000	MISSOURI R AT OMAHA NEBR	411532	0955520	NE	055	STREAM	1969			3	6	6		GS
35	Q	54735	801	MISSOURI R AT OMAHA NE	411530	0955520	NE	055	STREAM	1939	1973		*	*		*	CE
35	Q	54718	791	INDIAN C N BROWY COUNCIL BLUFFS IA	411713	0955009	IA	155	STREAM	1956	1967		5	5			CE
35	Q	54721	301183	BIG PAPILLION C AT FORT ST OMAHA	411822	0960615	NE	055	STREAM	1965			4	4		*	CE
35	Q	54756	301154	L PAPILLION C AT IRVINGTON NEBR	411840	0960243	NE	055	STREAM	1965			4	4		*	CE
35	Q	54755	811	L PAPILLION-C A PEONY PARK OMAHA NE	411600	0960212	NE	055	STREAM	1956	1969		5	5			CE
35	Q	54757	301149	WB PAPILLION NR PAPILLION NEBR	411003	0960506	NE	153	STREAM	1965			4	4		*	CE
34	A	51073	06620000	N PLATTE R NR NORTHGATE CO	405610	1062021	CO	057	STREAM	1965			5	5			GS
34	A	51045	06623800	ENCAMPMENT R AB HOG PARK C NR ENCAM	410125	1064927	WY	007	STREAM	1964			5				GS
34	E	75953	06628800	SAGE C NR SARATOGA WY	413453	1065917	WY	007	STREAM	1972			5				GS
34	B	51049	06634600	L MEDICINE BOW R NR MEDICINE BOW WY	415655	1061013	WY	007	STREAM	1965			5				GS
34	C	51050	06635000	MEDICINE BOW R AB SEMINOE RE NR HAN	420035	1063045	WY	007	STREAM	1965			5				GS
34	D	51051	06637910	ROCK C AT ATLANTIC CITY WY	423047	1084446	WY	013	STREAM	1957			3	6			GS
34	F	73507	06644550	N PLATTE R AT CASPER WY	425126	1061909	WY	025	STREAM	1971			5	7			GS
34	F	63094	06645000	N. PLATTE R BL CASPER WY	425145	1061300	WY	025	STREAM	1947			3	6			GS

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NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
34	I	56312	06652000	N PLATTE R AT ORIN WY	423902	1050946	WY	009	STREAM	1966			5	7			GS
34	I	51055	06656000	N PLATTE R BL GUERNSEY RE WY	421650	1044515	WY	031	STREAM	1947		*	3	6	6		GS
34	G	67139	06660000	LARAMIE R AT LARAMIE WY	411936	1053627	WY	001	STREAM	1947	1970		3	6			GS
34	M	51057	06670500	LARAMIE R NR FORT LARAMIE WY	421205	1043206	WY	015	STREAM	1965			5	7			GS
33	C	67140	06670900	N PLATTE R NR LINGLE WY	423613	1042102	WY	015	STREAM	1969			5	7	6		GS
33	C	51058	06674500	N PLATTE R AT WYOMING NEBRASKA STAT	415925	1040257	NE	157	STREAM	1965			5	7			GS
33	C	69096	06686000	N PLATTE R AT LISCO NE	412918	1023725	NE	069	STREAM	1970			5	5			GS
34	K	51237	06707000	NF S PLATTER AT SOUTH PLATTE CO	392432	1051031	CO	059	STREAM	1964	1967		5				GS
34	Q	81704	06720700	WOMAN C AT ROCKY FLATS PLANT CO	395307	1051142	CO	059	STREAM	1972			3				GS
34	L	76999	06724000	ST VRAIN C AT LYONS CO	401305	1051434	CO	013	STREAM	1965	1967		*	*			GS
34	Q	51238	06754000	S. PLATTE R NR KERSEY CO	402444	1043346	CO	123	STREAM	1947		*	5	5	5		GS
35	B	75220	06768000	PLATTE R NR OVERTON NE	404057	0993224	NE	047	STREAM	1950			*	*	*		GS
35	B	75223	06771000	WOOD R NR RIVERDALE NE	404756	0991148	NE	019	STREAM	1947			*	*			GS
35	F	50373	06775500	M LOUP R AT DUNNING NE	414950	1003600	NE	009	STREAM	1946		*	*	*			GS
35	F	61566	1	DISMAL R AT HIWAY 97	4151	10102	NE	091	STREAM	1967	1969		6				NDO
35	F	54352	06775900	DISMAL R NR THEDFORD NE	414645	1003130	NE	171	STREAM	1966			*	*	*		GS
35	F	61567	2	DISMAL R AT HIWAY 83	414645	1003130	NE	171	STREAM	1967	1969		6				NDO
35	C	75225	06784000	S LOUP R AT ST MICHAEL NE	410153	0984425	NE	019	STREAM	1947			*	*	*		GS
35	F	67323	06785000	M LOUP R AT ST PAUL NE	411155	0982650	NE	093	STREAM	1946			*	*	*		GS
35	E	75227	06790500	N LOUP R NR ST PAUL NE	411535	0982650	NE	093	STREAM	1946			*	*	*		GS
35	M	54752	821	SHELL C NR PLATTE CENTER NEBR	413139	0972941	NE	141	STREAM	1951	1967		5	5		*	CE
35	M	56353	06794700	PLATTE R NR SCHUYLER NE	412450	0970335	NE	037	STREAM	1966	1968		5	5	5		GS
35	M	75230	06795500	SHELL C NR COLUMBUS NE	413133	0971655	NE	141	STREAM	1948			*	*	*		GS
35	M	73455	06796000	PLATTE R AT N BEND NE	412710	0964550	NE	053	STREAM	1972			7	7	7	7	GS
35	I	50374	06797400	ELKHORN R NR INMAN NE	422345	0983030	NE	089	STREAM	1965	1970		6	6	6		GS
35	I	50375	06797500	ELKHORN R AT EWING NE	421603	0982011	NE	089	STREAM	1948		*	*	*	*		GS
35	I	50376	06798000	S F ELKHORN R AT EWING NE	421504	0982018	NE	089	STREAM	1960	1967		5	5	5		GS
35	I	50377	06758500	ELKHORN R AT NELIGH NE	420720	0980140	NE	003	STREAM	1948		*	6	6	6		GS
35	I	50378	06799000	ELKHORN R NR NORFOLK NE	420020	0972840	NE	119	STREAM	1960			6	6	6		GS
35	I	75231	06799100	N F ELKHORN R NR PIERCE NE	421044	0972904	NE	139	STREAM	1960	1968		*	*	*		GS
35	I	50379	06799130	NF ELKHORN R AT NORFOLK NE	420159	0972415	NE	119	STREAM	1965	1968		*	*	*		GS
35	J	50380	06799450	LOGAN C AT PENDER NE	420640	0964200	NE	173	STREAM	1964			*	*	*	7	GS
35	K	56354	06800500	ELKHORN R AT WATERLOO NE	411725	0961705	NE	055	STREAM	1948		*	6	6	6	6	GS
35	L	54720	833	OAK C NR RAYMOND NEBR	405802	0965030	NE	109	STREAM	1964	1967		*	*		*	CE
35	L	67326	06803500	SALT C AT LINCOLN NE	405049	0964054	NE	109	STREAM	1951		*	*	*	*		GS
35	L	69098	06803530	ROCK C NR CERESCO NE	410056	0963239	NE	109	STREAM	1970			6	6	6		GS
35	L	54722	831	SALT C AT GREENWOOD NE	405803	0962703	NE	025	STREAM	1953	1973		*	*		*	CE
35	L	75209	06803555	SALT C AT GREENWOOD NE	405756	0962701	NE	025	STREAM	1971			3	5	5		GS
35	M	54751	841	PLATTE R NR LOUISVILLE NE	410050	0960929	NE	025	STREAM	1952	1973		*	*		*	CE
35	Q	81661	06805459	MILL C AT LOUISVILLE NE	410013	0960935	NE	025	STREAM	1973			7	7			GS

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NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
35	M	75973	06805500	PLATTE R NR S BEND NE	410130	0961750	NE	025	STREAM	1970			3	5	5		GS
35	Q	81662	06805525	CEDAR C NR LOUISVILLE NE	410095	0970715	NE	025	STREAM	1973			7	7			GS
35	Q	83930	06805565	FOURMILE C NR PLATTSMOUTH NE	410102	0955746	NE	025	STREAM	1974			7	7			GS
35	Q	81619	06806460	WEEPING WATER C AT WEEPING WATER NE	405118	0960710	NE	025	STREAM	1973			7	7			GS
35	Q	81663	06806495	S BR WEEPING WATER C NR UNION NE	404845	0965643	NE	025	STREAM	1973			7	7			GS
35	Q	75232	06806501	WEEPING WATER C NR UNION NE	404746	0955417	NE	025	STREAM	1972			6	6	6		GS
35	Q	50381	06807000	MISSOURI R AT NEBRASKA CITY NEBR	404055	0955048	NE	131	STREAM	1951			3	6	6		GS
35	Q	54736	951	MISSOURI R AT NEBR CITY NE	404055	0999048	NE	131	STREAM	1957	1973		*			*	CE
35	O	56939	06808000	MULE C NR MALVERN, IA	405636	0953542	IA	129	STREAM	1958	1969		3	6			GS
35	O	56921	06808500	W NISHNABOTNA R AT RANDOLPH IOWA	405223	0953448	IA	071	STREAM	1965	1973		5				GS
35	N	52033	06809000	DAVIDS C NR HAMLIN IA	414025	0944820	IA	009	STREAM	1952	1973		*	*	*		GS
35	N	52032	06809500	E NISHNABOTNA R AT RED OAK IOWA	410041	0951437	IA	137	STREAM	1962	1973		3	6	7		GS
35	P	50382	06810900	BROWNELL C SUBWATERSHED NO 1A NR SY	404016	0960731	NE	131	STREAM	1955	1969		1	1			GS
35	P	56356	06811000	BROWNELL C SUBWATERSHED NO 1 NR SYR	404021	0960739	NE	131	STREAM	1955	1969		1	1			GS
31	A	81896	06814000	TURKEY C NR SENECA KS	395652	0960630	KS	131	STREAM	1949	1969		*	*	*		GS
31	A	74226	312	NF NEMAHA R NR HUMBOLT NE	400925	0955640	NE	147	STREAM	1971			4	8	8		CE
31	A	74228	312	NF BIG NEMAHA R NR HUMBOLDT NEB	400925	0955640	NE	147	STREAM	1971			4	8	8		CE
31	K	74227	146	L BLUE R NR LAKE CITY MO	390602	0941801	MO	095	STREAM	1971			4	8	8		CE
31	A	54674	309	NEMAHA R FALLS CITY NEB	400200	0953530	NE	147	STREAM	1949	1968		4	5		*	CE
31	A	81897	06815270	SPRING C NR FAIRVIEW KANS	395036	0954035	KS	013	STREAM	1964	1972		*	*	*		GS
31	A	81898	06815280	MULBERRY C NR FAIRVIEW KANS	395200	0953920	KS	013	STREAM	1964	1972		*	*	*		GS
31	A	81899	06815290	TERRAPIN C AT HAMLIN KANS	395252	0953731	KS	013	STREAM	1964	1972		*	*	*		GS
31	A	50304	06815300	WALNUT C AT RESERVE KS	395800	0953300	KS	013	STREAM	1962	1972		*	*			GS
31	B	67965		BURLINGTON JUNCTION NODAWAY R	402640	0950520	MO	147	STREAM	1969			3	8	8		CE
31	E	54662	44	MISSOURI R ST JOSEPH MO	394510	0945128	MO	021	STREAM	1948			4	5		*	CE
31	D	67617	06818750	PLATTE R NR DIAGONAL IA	404602	0942446	IA	159	STREAM	1968	1973		5	7			GS
31	D	54673	300-4	L PLATTE R SMITHVILLE MAIN STREET M	3924	0943330	MO	165	STREAM	1965	1972		4	5		*	CE
33	I	54672	289	S.F. REPUBLICAN R NR BENKELMAN NEB	400155	1013230	NE	057	STREAM	1961	1967		4	5		*	CE
33	P	67316	06829500	REPUBLICAN R AT TRENTON NE	401000	1010240	NE	087	STREAM	1946			*	*			GS
33	L	50383	06832900	FRENCHMAN R NR WAUNETA NE	4025	10126	NE	029	STREAM	1963	1967		5	5	5		GS
33	L	50384	06834000	FRENCHMAN R AT PALISADE NE	402050	1010740	NE	085	STREAM	1962		*	5	5	5		GS
33	K	50385	06835000	STINKING WATER C NR PALISADE NE	402210	1010650	NE	085	STREAM	1962		*	5	6	6		GS
33	M	69102	06842500	MEDICINE C BL HARRY STRUNK LK NE	402220	1001320	NE	063	STREAM	1951			*				GS
33	P	54671	243	REPUBLICAN R NR CAMBRIDGE NEB	401705	1000835	NE	065	STREAM	1961	1967		4	5		*	CE
33	P	67315	06844500	REPUBLICAN R NR ORLEANS NE	400753	0993008	NE	083	STREAM	1947			*	*			GS
33	P	54670	242	REPUBLICAN R NR ORLEANS NEB	400750	0992950	NE	083	STREAM	1948	1970		4	5		*	CE
33	O	50222	06845000	SAPPA C NR OBERLIN KANS	394707	1003428	KS	039	STREAM	1958	1970		*	*	*		GS
33	N	50223	06846500	BEAVER C AT CEDAR BLUFFS KANS	395906	1003339	KS	039	STREAM	1958			5	5			GS
33	O	75246	06847500	SAPPA C NR STAMFORD NE	400753	0993315	NE	083	STREAM				*	*	*		GS
32	A	50224	06847900	PRAIRIE DOG C AB NORTON RESERVOIR K	394613	1000600	KS	137	STREAM	1963	1970		*	*			GS

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NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
32	A	50308	06848000	PRAIRIE DOG C AT NORTON KANS	394836	0995518	KS	137	STREAM	1948			*	*			GS
32	B	54688	241-2	HARLAN COUNTY DAM NEB	400410	0991230	NE	083	RESER	1953	1967		4				CE
32	B	54687	241-1	REPUBLICAN R NR BLOOMINGTON NEB	4004	0990130	NE	061	STREAM	1942	1968	*	4	5		*	CE
32	B	54686	240-3	REPUBLICAN R GUIDE ROCK NEB	400310	0981850	NE	181	STREAM	1961	1968		4	5		*	CE
32	B	56376	06854500	REPUBLICAN R AT SCANDIA KANS	394751	0974737	KS	157	STREAM	1957	1971		*	*	*		GS
32	B	70379	250 2	BUFFALO C NR JAMESTOWN KA	393655	0975120	KS	029	STREAM	1970			4	8	8		CE
32	B	54685	237	REPUBLICAN R NR CONCORDIA KAN	3935	09733	KS	029	STREAM	1961	1968		4	5		*	CE
32	B	54684	236	REPUBLICAN R CLAY CENTER KAN	3921	09708	KS	027	STREAM	1948		*	4	5		*	CE
32	B	81905	06856600	REPUBLICAN R AT CLAY CENTER KANS	392120	0970734	KS	027	STREAM	1957			*	*	*		GS
32	S	56831	253-3	MILFORD DAM	390434	0965401	KS	161	RESER	1967			4				CE
32	C	50311	06859500	LADDER C BL CHALK C NR SCOTT CITY	384720	1005210	KS	109	STREAM	1958			6	6	7		GS
32	D	50312	06860300	S B HACKBERRY C NR ORION KANS	385630	1004210	KS	063	STREAM	1964			6	6			GS
32	F	50313	06863300	BIG C NEAR OGALLAH KANS	385440	0994440	KS	195	STREAM	1955	1968		*	*			GS
32	G	50232	06864000	SMOKY HILL R NR RUSSELL KANS	384636	0985116	KS	167	STREAM	1961			*	*			GS
32	G	50233	06864500	SMOKY HILL R AT ELLSWORTH KANS	384336	0981400	KS	053	STREAM	1949			*	*	*		GS
32	G	54678	197	SMOKY HILL R ELLSWORTH KAN	3844	09814	KS	053	STREAM	1942	1967		4	5		*	CE
32	G	54677	196-1	KANOPOLIS DAM KAN	3837	09758	KS	053	RESER	1947	1968		4				CE
32	H	50236	06866900	SALINE R NR WAKEENEY KANS	390622	0995210	KS	195	STREAM	1955	1966		*	*			GS
32	H	50237	06867000	SALINE R NR RUSSELL KANS	385800	0985120	KS	167	STREAM	1946			*	*	*		GS
32	G	54679	198	SALINE R NR RUSSFLL KAN	3847	09851	KS	167	STREAM	1964	1970		4	5		*	CE
32	H	50238	06867500	PARADISE C NR PARADISE KANS	390425	0985115	KS	167	STREAM	1947	1969		*	*			GS
32	I	54683	229-1	WILSON DAM KAN	385800	0982935	KS	167	RESER	1964			4				CE
32	I	50240	C6869500	SALINE R AT TESCOTT KANS	390015	0975226	KS	143	STREAM	1950			5	5			GS
32	M	50243	06870200	SMOKY HILL R AT NEW CAMBRIA KANS	385113	0972752	KS	169	STREAM	1962	1970		*	*	*		GS
32	J	65595	06871800	N F SOLOMON R AT KIRWIN KANS	393936	0990655	KS	147	STREAM	1945			*	*			GS
32	J	50317	06872300	MIDDLE BEAVER C NR SMITH CENTER KS	394800	0985110	KS	183	STREAM	1963	1970		*	*			GS
32	J	54682	225-1	PORTIS KAN NF SOLOMON R PORTIS KAN	393315	0984131	KS	141	STREAM	1961	1968		4	5		*	CE
32	K	54681	222	S F SOLOMON R OSBORNE KAN	3926	09842	KS	141	STREAM	1962	1968		4	5		*	CE
32	L	50323	06876700	SALT C NR ADA KANS	390830	0975010	KS	143	STREAM	1963	1970		*	*			GS
32	L	69306	220-2	SALT C NR ADA KANS	390830	0975010	KS	143	STREAM	1970			4	8	8		CE
32	L	50249	06876900	SOLOMON R AT NILES KANS	385808	0972834	KS	143	STREAM	1957			5	5	7		GS
32	M	50324	06877500	TURKEY C NR ABILENE KANS	384820	0971050	KS	041	STREAM	1962			*	*			GS
32	M	50250	06877600	SMOKY HILL R AT ENTERPRISE KANS	385424	0970712	KS	041	STREAM	1955			3	5	5		GS
32	M	69308	204	CHAPMAN C NR CHAPMAN KANS	390152	0970224	KS	041	STREAM	1970			4	8	8		CE
32	M	50251	06878500	LYON C NR WOODBINE KANS	385305	0965435	KS	061	STREAM	1958	1971		5	5			GS
32	M	54680	203	LYON C NR WOODBINE KAN	3853	09655	KS	061	STREAM	1963	1969		4	5		*	CE
32	N	50386	06879900	BIG BLUE R AT SURPRISE NE	410605	0971835	NE	023	STREAM	1965			*	*			GS
32	N	50387	06880000	LINCOLN C NR SEWARD NE	405457	0970843	NE	159	STREAM	1963			*	*	*		GS
32	N	67968		SEWARD LINCOLN CR	405457	0970843	NE	159	STREAM	1967			3	8			CE
32	O	50388	06880800	W F BIG BLUE R NR DORCHESTER NE	404352	0971038	NE	159	STREAM	1963			*	*	*		GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
32	O	67966		DORCHESTER WF BIG BLUE R	404352	0971038	NE	159	STREAM	1967			3		8		CE
32	R	67309	06881000	BIG BLUE R NR CRETE NE	403547	0965736	NE	151	STREAM	1961		*	*	*	*	7	GS
32	R	54660	177	BIG BLUE R NR CRETE NEB	403540	0965735	NE	151	STREAM	1964	1970		4	5		*	CE
32	P	50389	06881200	TURKEY C NR WILBER NE	402848	0970043	NE	151	STREAM	1965			*	*	*		GS
32	P	69313	188	TURKEY C NR WILBER NEBR	402837	0970029	NE	151	STREAM	1970			4	8	8		CE
32	R	54658	175-1	BIG BLUE R BARNESTON NEB	4003	09635	NE	067	STREAM	1959	1972		4	5			CE
32	Q	50390	06883000	L BLUE R NR DEWEESE NE	401958	0980420	NE	129	STREAM	1955	1969		5	5	5		GS
32	Q	69305	185-1	MILL C AT WASHINGTON KANS	394850	0970220	KS	201	STREAM	1970			4	8	8		CE
32	Q	50253	06884400	L BLUE R NR BARNES KANS	394633	0965129	KS	201	STREAM	1961			*	*			GS
32	Q	54676	181 1	L BLUE R NR BARNES KS	394640	0965140	KS	177	STREAM	1959	1971		4	8	8		CE
32	R	54657	171-3	TUTTLE CREEK DAM KAN	392650	0964340	KS	161	RESER	1960	1972		4				CE
31	G	50255	06887500	KANSAS R AT WAMEGO KANS	391152	0961816	KS	149	STREAM	1956			3	5	5		GS
31	G	50256	06888000	VERMILLION C NR WAMEGO KANS	392100	0961310	KS	149	STREAM	1958	1970		*	*			GS
31	G	81886	06889100	SOLDIER C NR GOFF KANS	393727	0955757	KS	131	STREAM	1967			6	7			GS
31	G	81887	06889120	SOLDIER C NR BANCROFT KANS	393542	0955817	KS	131	STREAM	1967			6	7			GS
31	G	81888	06889140	SOLDIER C NR SOLDIER KANS	393357	0955745	KS	085	STREAM	1967			6	7			GS
31	G	81889	06889160	SOLDIER C NR CIRCLEVILLE KANS	392747	0955700	KS	085	STREAM	1967			6	7			GS
31	G	81890	06889180	SOLDIER C NR ST CLERE KANS	392233	0955505	KS	085	STREAM	1967			6	7			GS
31	G	50257	06889200	SOLDIER C NR DELIA KANS	391208	0955225	KS	177	STREAM	1965			6	7			GS
31	G	54656	167-2	SOLDIER C NR DELIA KAN	391208	0955225	KS	177	STREAM	1963	1970		4	5		*	CE
31	F	77959	166 9A	DELAWARE R NR MUSCOTAH KS	393117	0953157	KS	005	STREAM	1970			4	8	8		CE
31	F	67961		ARRINGTON DELAWARE R	392636	0953125	KS	005	STREAM	1969	1969		4	8	8		CE
31	F	50258	06890500	DELAWARE R AT VALLEY FALLS KANS	392103	0952716	KS	087	STREAM	1957	1967		5	7			GS
31	F	67967	166-7	PERRY DAM ON DELAWARE R KANS	390600	0952600	KS	087	RESER	1969			4				CE
31	G	70378	168	MILL C NR PAXICO KA	390344	0961052	KS	197	STREAM	1970			4	8	8		CE
31	G	81894	06891490	YANKEE TANK C NR LAWRENCE KANS	385607	0951858	KS	045	STREAM	1968			*	*			GS
31	G	54655	165-2	WAKARUSA R NR LAWRENCE KAN	3854	09515	KS	045	STREAM	1963	1970		4	5		*	CE
31	G	54654	164	STRANGER C NR TONGANOXIE KS	390659	0950039	KS	103	STREAM	1964	1971		4	8	8		CE
31	G	55957	1452-664	GARDNER LK NAS OLATHE KA	3850	09454	KS	091	RESER	1956			3				NFE
31	G	50261	06892490	CEDAR C NR CEDAR JUNCTION KANS	385611	0945430	KS	091	STREAM	1965	1968		*	*			GS
31	K	54653	156	KANSAS R BONNER SPRINGS KAN	390337	0945221	KS	209	STREAM	1949			4	5		*	CE
31	K	50262	06892500	KANSAS R AT BONNER SPRINGS KANS	390337	0945221	KS	209	STREAM	1949			*	*			GS
31	K	54661	39	MISSOURI R KANSAS CITY MO	390643	0943516	MO	095	STREAM	1948			4	5		*	CE
31	K	67964		KANSAS CITY MO BLUE R	385725	0943332	MO	095	STREAM	1966			3	8	8		CE
31	K	67963		KANSAS CITY MO LITTLE BLUE R	385420	0942800	MO	095	STREAM	1966			3	8	8		CE
31	K	86834	146	LITTLE BLUE RIVER LAKE CITY MO	390600	0941800	MO	095	STREAM	1972			4	5			CE
31	K	67962		EXCELIOR SPRINGS EF FISHING R	392020	0941245	MO	047	STREAM	1968	1972		3	8			CE
31	H	67616	06897950	ELK C NR DECATUR CITY IOWA	404318	0935619	IA	053	STREAM	1967			5	7			GS
31	H	65367	06898000	THOMPSON R AT DAVIS CITY IOWA	403825	0934829	IA	053	STREAM	1967			3	6	7		GS
31	H	54652	138-2	THOMPSON R NR MT MCRAIH MO	402110	0934605	MO	129	STREAM	1963	1969		4	5		*	CE

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
31	H	54651	140	WELDON R MILL GROVE MO	4018	09336	MO	129	STREAM	1963	1971		4	5	*		CE
31	I	54650	137	SHOAL C NR BRAYMER MO	394005	0934605	MO	025	STREAM	1963	1969		4	5		*	CE
31	I	69311	136	MEDICINE C NR GALT MO	400745	0932145	MO	211	STREAM	1970			4	8	8		CE
31	I	54649	133	LOCUST C NR LINNEUS MO	395345	0931410	MO	115	STREAM	1963	1969		*	*		*	CE
31	I	54648	132-1	W YELLOW C BROOKFIELD MO	395040	0930136	MO	115	STREAM	1964	1969		*	*		*	CE
31	J	67614	06903400	CHARITON R NR CHARITON IOWA	405712	0931537	IA	117	STREAM	1969	1973		3	6	7		GS
31	J	67960		PROMISE CITY SF CHARITON R	404802	0931132	IA	185	STREAM	1969			3	8	8		CE
31	J	75613	06903700	SF CHARITON R NR PROMISE CITY IOWA	404802	0931132	IA	185	STREAM	1965	1973		*				GS
31	J	67959	124 4	RATHBUN DAM CHARITON R	404840	0925300	IA	007	RESER	1969			4				CE
31	J	52031	06903900	CHARITON R NR RATHBUN IOWA	404922	0925322	IA	007	STREAM	1962			*	*	*		GS
31	J	54675	125-2	E FK L CHARITON R HUNTSVILLE MO	392719	0923409	MO	175	STREAM	1963	1970		4	5		*	CE
31	J	67958		MUSSEL FORK MUSSEL FORK CHARITON R	393126	0925659	MO	041	STREAM	1969			3	8	8		CE
31	L	69307	120	BLACKWATER R AT BLUE LICK MO	385925	0931214	MO	195	STREAM	1970			4	8	8		CE
31	W	54669	116	MOREAU R NR JEFFERSON CITY MO	383025	0921520	MO	051	STREAM	1965	1972		4	8	8		CE
31	P	54663	97-1	MARAIS DES CYGNES R MELVERN KAN	383150	0954640	KS	139	STREAM	1964	1970		4	5		*	CE
31	P	73136	97-2	MARAIS DES CYGNES R NR READING KS	384000	0955750	KS	111	STREAM	1971			4	8	8		CE
31	P	77965	15	MARIS DES CYGNES R AT MELVERN DAM	383054	0954129	KS	139	RESER	1972			4				CE
31	P	54668	114-3	DRAGON C NR BURLINGAME KAN	384230	0955020	KS	139	STREAM	1962	1970		4	5		*	CE
31	P	54667	114-2	POMONA DAM KAN	3839	09534	KS	059	RESER	1963	1968		4				CE
31	P	67957		GARNETT POTTAWATOMIE C	382001	0951455	KS	003	STREAM	1968			4	8	8		CE
31	O	69310	109	L OSAGE R AT FULTON KANS	380109	0944248	KS	011	STREAM	1970			4	8	8		CE
31	N	66934	06917500	MARMATON R NR FORT SCOTT KS	375147	0944036	KS	011	STREAM	1949			*	*	*		GS
31	O	67956		DADEVILLE SAC R	372635	0934105	MO	057	STREAM	1969			3	8	8		CE
31	O	67955	106-3	STOCKTON DAM	374203	0934520	MO	039	STREAM	1969			4				CE
31	Q	77983	90	OSAGE R AT OSCEOLA MO	380344	0934137	MO	185	STREAM	1972			4	8	8		CE
31	R	54666	105	POMME DE TERRE R NR BOLIVAR MO	3736	09319	MO	167	STREAM	1961	1968		4	5		*	CE
31	R	77974	86	TOMME DE TERRE DAM	375410	0931910	MO	085	RESER	1961	1968		4				CE
31	S	54664	103-2	BIG C BLAIRSTOWN MO	383317	0935754	MO	083	STREAM	1965			4	5		*	CE
31	S	77984	103 1A	S GRAND R AT ARCHIE	382844	0942003	MO	037	STREAM	1972			4	8	8		CE
31	V	69309	75-1	OSAGE F AT DRYNOB MO	373800	0922712	MO	105	STREAM	1970			4	8	8		CE
31	V	69312	76	L PINEY C AT NEWBURG MO	375435	0915412	MO	161	STREAM	1970			4	8	8		CE

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD *	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCONTINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN: 10																	
TOTAL:		391															

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MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
44	B	58323		WEST FORK ARK			AR	143	STREAM	1961			8			8	B50
44	B	58109		FAYETTEVILLE ARK			AR	143	RESER	1936			8			8	B50
44	B	58154		HUNTSVILLE ARK			AP	087	STREAM	1936		*	8			8	B50
44	B	58043		BERRYVILLE ARK			AR	015	SPRING	1935		*	8			8	B50
44	B	58021		ALPENA ARK			AR	009	STREAM	1963			8			8	B50
44	B	58125		GREEN FOREST ARK			AR	015	SPRING	1936		*	8			8	B50
44	B	58136		HARRISON ARK			AP	009	SPRING	1935			8			8	B50
44	B	85874		LKVIEW-MIDWAY ASSO MT HOME SUPPLY	362300	0922800	AR	005	LAKE	1972			8			8	B50
44	B	85875		N E WATER ASSO-MT HOME SUPPLY	362200	0922500	AR	005	LAKE	1972			8			8	B50
44	B	58078		COTTER ARK			AR	005	SPRING	1935			8			8	B50
44	B	58277		YELLVILLE ARK			AR	089	SPRING	1949			8			8	B50
44	D	54644	07057500	NORTH FORK R NR TECUMSEH MO	363722	0921453	MO	153	STREAM	1945	1969	*	8	*			CE
44	J	63510	07060710	N SYLAMORE C NR FIFTY SIX DR.	355930	0921250	AR	137	STREAM	1966			5				GS
44	J	58205		MELBOURNE ARK			AR	065	SPRING	1947			8			8	B50
44	J	58035		BATESVILLE ARK			AR	063	STREAM	1936			8			8	B50
44	I	58280		POCAHONTAS ARK			AR	121	STREAM	1936		*	8			8	B50
44	I	54645	07061500	BLACK R NR ANNAPOLIS MO	372010	0904715	MO	179	STREAM	1939		*	8				CE
44	I	54637	07062000	CLEARWATER RE NR PIEDMONT MO	370800	0904631	MO	221	RESER	1940		*	8				CE
44	I	54646	07063000	BLACK R AT POPLAR BLUFF MO	364535	0902315	MO	023	STREAM	1939		*	8				CE
44	E	80992	07064440	CURRENT R BL MOUNTAUK STATE PARK MO	372701	0912941	MO	065	STREAM	1973			6				GS
44	E	81003	07066110	JACKS F AB TWO RIVERS MO	371053	0911736	MO	203	STREAM	1973			6				GS
44	E	81004	07066510	CURRENT R AB POWDER MILL OK	371032	0911248	MO	203	STREAM	1973			6				GS
44	E	81009	07067800	CURRENT R BL HAWES CAMPGROUND MO	364908	0905648	MO	035	STREAM	1973			6				GS
44	G	58156		IMBODEN ARK			AR	075	STREAM	1953		*	8			8	B50
44	I	54621	07072500	BLACK R AT BLACK ROCK ARK	360615	0910550	AP	075	STREAM	1931		*	8				CE
44	H	54628	07073000	STRAWBERRY R NR EVENING SHADE ARK	360555	0913630	AR	135	STREAM	1939		*	*				CE
44	H	54627	07073500	PINEY FORK AT EVENING SHADE ARK	360450	0913642	AR	135	STREAM	1939		*	*				CE
44	H	54629	07074000	STRAWBERRY R NR POUGHKEEPSIE ARK	360637	0912659	AR	135	STREAM	1939			*	*			CE
44	H	58108		EVENING SHADE ARK			AR	135	SPRING	1962			8			8	B50
44	G	58068		CHEROKEE VILLAGE ARK			AR	135	SPRING	1957			8			8	B50
44	G	58134		HARDY ARK			AR	135	STREAM	1936		*	8			8	B50
44	J	54630	07074500	WHITE R AT NEWPORT ARK	353620	0911720	AR	067	STREAM	1939		*	*	*			CE
44	K	58032		BALD KNOB ARK			AR	145	RESER	1941			8			8	B50
44	K	54633	07075300	SF LITTLE RED R AT CLINTON ARK	353529	0922720	AR	141	STREAM	1961		*	8				CE
44	K	54632	07075000	MF LITTLE RED R AT SHIRLEY ARK	3539	09218	AR	141	STREAM	1939		*	8				CE
44	K	58241		PANGBURN ARK			AR	145	STREAM	1957			8			8	B50
44	K	58073		CLINTON ARK			AR	141	STREAM	1953			8			8	B50
44	K	58141		HEBER SPRINGS ARK			AR	023	RESER	1935			8			8	B50
44	K	58290		SEARCY ARK			AR	145	STREAM	1936			8			8	B50
44	K	85877		EDEN ISLE	353000	0921000	AR	023	RESER	1962			8			8	B50

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NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
44	K	58163		JUDSONIA ARK			AR	145	RESER	1946		*	8			8	B50
48	C	77600		TURQUOISE LAKE	391520	1062207	CO	065	LAKE	1967			8	8			C52
48	C	63455	07083000	HALFMOON C NR MALTA CO	391020	1062319	CO	065	STREAM	1966			5				GS
48	C	76260	07094500	ARKANSAS R AT PARKDALE CO	382914	1052223	CO	043	STREAM	1967	1969		*	*			GS
48	C	51256	07096000	ARKANSAS R AT CANON CITY CO	382602	1051524	CO	043	STREAM	1963		*	5	7			GS
48	C	51255	07099200	ARKANSAS R NR PORTLAND CO	382014	1045618	CO	101	STREAM	1964			5	6	7		GS
48	C	68068		BESSEMER DITCH	381600	1044700	CO	101	CANAL	1969			5	5			BR
48	C	69786		BESSEMER D	381600	1044715	CO	101	CANAL	1970			5	5			BR
48	C	51257	07099400	ARKANSAS R AB PUEBLO CO	381617	1044306	CO	101	STREAM	1965	1970		5	5			GS
48	C	68067		BESSEMER DITCH	381530	1044045	CO	101	CANAL	1969			5	5			BR
48	A	62923		NORTH CATAMOUNT RESERVOIR	385549	1050311	CO	119	RESER	1962			7	7			C52
48	A	62924		BLUE R DIV NR GREEN MTN FALLS COLO	385537	1050420	CO	119	STREAM	1956			5	5			C52
48	A	62921		CRYSTAL RESERVOIR	385516	1050127	CO	041	RESER	1962			5	5			C52
48	A	62922		SOUTH CATAMOUNT RESERVOIR	385540	1050256	CO	119	RESER	1962			7	7			C52
48	A	62920		S SLOPE AQUEDUCT AT HYDRO PLANT COL	385117	1045558	CO	041	OTHER	1959					6		C52
48	A	62919		N SLOPE AQUEDUCT AT HYDRO PLANT COL	385117	1045558	CO	041	OTHER	1959			7	7			C52
48	A	62917		NORTHFIELD RESERVOIR #4	385814	1045654	CO	041	RESER	1962			7	7			C52
48	A	62918		NORTHFIELD RESERVOIR #5	385841	1045751	CO	041	RESER	1962			7	7			C52
48	A	62915		BEAR C NR COLORADO SPRINGS COLO	384911	1045332	CO	041	STREAM	1959			7	7			C52
48	A	62913		S CHEYENNE C AT BROADMOOR COLO	384709	1045209	CO	041	STREAM	1966			5	5			C52
48	A	62914		N CHEYENNE C AT BROADMOOR COLO	384729	1045237	CO	041	STREAM	1966			7	7			C52
48	C	68069		BESSEMER DITCH	381400	1043400	CO	101	CANAL	1969			5	7			BR
48	H	65903		PURGATOIRE R NR LAS ANIMAS COLO	380202	1031200	CO	011	STREAM	1959			5	5			CE
48	K	65904		ARKANSAS R AT LAS ANIMAS COLO	380508	1031250	CO	011	STREAM	1959			5	5			CE
47	F	50349	07138000	ARKANSAS R AT SYRACUSE KS	375758	1014523	KS	075	STREAM	1958			5	6	7		GS
47	B	56382	07138650	WHITEWOMAN C NR LEOTT KS	382852	1012916	KS	203	STREAM	1966			5	5	5		GS
47	B	50350	07138700	WHITEWOMAN CK NR MODAC KS	382020	1010410	KS	171	STREAM	1964	1969		*	*	*		GS
46	Y	50328	07139000	ARKANSAS R AT GARDEN CITY KANS	375721	1005237	KS	055	STREAM	1961	1968		*	*	*		GS
46	Y	50268	07139500	ARKANSAS R AT DODGE CITY KANS	374451	1000108	KS	057	STREAM	1958			5	7	7		GS
46	E	50269	07140000	ARKANSAS R NR KINSLEY KANS	375533	0992231	KS	047	STREAM	1958			3	6	7		GS
46	B	50329	07140700	GUZZLERS GULCH NR NESS CITY KANS	381740	0995710	KS	135	STREAM	1964			5	7			GS
46	B	50270	07141200	PAWNEE R NR LARNED KANS	381200	0992050	KS	145	STREAM	1958			5	6			GS
46	E	50271	07141300	ARKANSAS R AT GREAT BEND KANS	382111	0984550	KS	009	STREAM	1944			5	6	7		GS
46	C	82199	07141600	LONG BRANCH C NR NESS CITY KS	382701	0995250	KS	135	STREAM	1963			6	7	7		GS
46	C	77078	07141800	OTTER C NR RUSH KS	382416	0991826	KS	165	STREAM	1967			6	7	7		GS
46	C	50272	07141900	WALNUT C AT ALBERT KANS	382740	0990050	KS	009	STREAM	1958			3	6			GS
46	F	50274	07143300	COW C NR LYONS KANS	381830	0981130	KS	159	STREAM	1958			5	7	7		GS
46	K	50275	07143330	ARKANSAS R NR HUTCHINSON KANS	375647	0974629	KS	155	STREAM	1959			5	6	7		GS
46	G	50276	07144200	L ARKANSAS R AT V CENTER KANS	374956	0972316	KS	173	STREAM	1944			*	*	*		GS
46	H	50278	07144780	N F NINNESCAH R AB CHENEY RES KANS	375041	0975609	KS	155	STREAM	1965			5	7	7		GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
46	H	50279	07144800	NF NINNESCAH R NR CHENEY KANS	3740	09746	KS	173	STREAM	1960	1967		5	5			GS
46	I	50337	07144850	SF NINNESCAH R NR PRATT KANS	373510	0984940	KS	151	STREAM	1962			8	8			GS
46	I	50280	07145200	S F NINNESCAH R NR MURDOCK KANS	373351	0975110	KS	095	STREAM	1960			5	7	7		GS
46	I	50284	07145500	NINNESCAH R NR PECK KANS	372734	0972520	KS	191	STREAM	1958			5	7	7		GS
46	K	50285	07146500	ARKANSAS R AT ARKANSAS CITY KS	370330	0970324	KS	035	STREAM	1951			3	8			GS
46	K	56922	07146500	ARKANSAS R AT ARKANSAS CITY KS	370323	0970332	KS	035	STREAM	1951			3	6	7		GS
46	J	50339	07147040	W BR WHITEWATER R AT WHITEWATER KAN	374047	0970150	KS	015	STREAM	1962			8	8			GS
46	J	50288	07147070	WHITE WATER R AT TOWANDA KANS	374745	0970045	KS	015	STREAM	1961			*	*	*		GS
46	J	50290	07147800	WALNUT R AT WINFIELD KANS	371327	0965940	KS	035	STREAM	1961			3	6			GS
46	L	50344	07149000	MEDICINE LODGE R NR KIOWA KANS	370217	0982804	KS	007	STREAM	1959	1969		*	*	*		GS
46	N	56862	07150000	GREAT SALT PLAINS RE NR JET OKLA	364440	0980808	OK	003	RESER	1945		*	8				CE
46	M	50291	07151500	CHIKASKIA R NR CORBIN KS	370800	0973600	KS	191	STREAM	1958	1967		*	*	*		GS
46	V	51832	07152500	ARKANSAS R AT RALSTON OK	363009	0964322	OK	117	STREAM	1944		*				7	GS
47	E	52532	07153500	DRY CIMARRON R NR GUY NM	365915	1032525	NM	059	STREAM	1963		*	5	7			GS
47	D	77058	07156200	NF CIMARRON R NR ULYSSES KS	373400	1012400	KS	067	STREAM	1962			6	7			GS
47	C	56376	07156220	BEAR C NR JOHNSON KANS	373735	1014540	KS	187	STREAM	1967			5	7	7		GS
47	E	50348	07156750	CIMARRON R NR LIBERAL KS	371300	1005600	KS	175	STREAM	1961			6	7	7		GS
46	P	81715	07156900	CIMARRON R NR FORGAN OK	370045	1002930	KS	119	STREAM	1966			6	7			GS
46	P	50352	07157000	CIMARRON R NR MOCANE OKLA	3659	10019	OK	007	STREAM	1962	1967		8	8			GS
46	O	50354	07157500	CROOKED C NR NYE KANS	370202	1001155	KS	119	STREAM	1963			6	7	7		GS
46	P	56377	07157900	CAVALRY C AT COLDWATER KANS	371600	0992040	KS	033	STREAM	1963			5	7	7		GS
46	Q	56864	07164200	KEYSTONE RE NR SAND SPRINGS OKLA	360905	0961505	OK	143	RESER	1963			4				CE
45	P	51837	07164400	ARKANSAS R AT SAND SPRINGS BRIDGE N	360648	0960649	OK	143	STREAM	1946						7	GS
45	P	54707	07164500	ARKANSAS R AT TULSA OKLA	360837	0960013	OK	143	STREAM	1930			4				CE
45	P	54689	07165500	POLECAT C BL HEYBURN RE NR HEYBU O	355651	0961758	OK	037	STREAM	1943			8				CE
45	P	82644	07165570	ARKANSAS R NR HASKELL OK	354923	0953839	OK	101	STREAM	1974						7	GS
45	P	67984	07165600	ARKANSAS R NR TULLAHASSEE OKLA	354815	0952410	OK	101	STREAM	1969	1972		5				CE
45	D	54716	07165700	VERDIGRIS R NR MADISON KANS	380815	0960605	KS	073	STREAM	1956			5				CE
45	D	54713	07166000	VERDIGRIS R NR COYVILLE KANS	374220	0955420	KS	205	STREAM	1940			8				CE
45	D	54712	07166500	VERDIGRIS R NR ALTOONA KANS	372926	0954049	KS	205	STREAM	1940			8				CE
45	A	54696	07167000	FALL R NR EUREKA KANS	374707	0961352	KS	073	STREAM	1947			8				CE
45	A	54690	07167500	OTTER C AT CLIMAX KANS	374230	0961330	KS	073	STREAM	1947			8				CE
45	A	54695	07168500	FALL R NR FALL RIVER KANS	373834	0960333	KS	073	STREAM	1940			8				CE
45	D	56847	07169800	ELK R AT ELK FALLS KANS	372232	0961107	KS	049	STREAM	1967			5				CE
45	D	54699	07170000	ELK R NR ELK CITY KANS	371559	095504	KS	125	STREAM	1940	1969		5				CE
45	D	54698	07170050	ELK CITY RE NR INDEPENDENCE KANS	371639	0954637	KS	125	RESER	1967			4				CE
45	D	54706	07170700	BIG HILL NR CHERRYVALE KANS	371600	0952805	KS	099	STREAM	1958			5				CE
45	D	54715	07171000	VERDIGRIS R NR LENAPAH OKLA	365105	0953506	OK	105	STREAM	1940			8				CE
45	D	54717	07171400	VERDIGRIS R NR OOLOGAH OKLA	362517	0954101	OK	131	STREAM	1961			5				CE
45	B	54702	07172000	CANEY R NR ELGIN KANS	370013	0961854	KS	019	STREAM	1940			8				CE

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NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
45	B	54701	07173000	CANEY R NR HULAH OKLA	365506	0960415	OK	113	STREAM	1938			8				CE
45	B	54692	07174200	L CANEY R BL COTTON C NR COPAN OK	365342	0955800	OK	147	STREAM	1958			8				CE
45	B	54710	07174600	SAND CR AT OKESA OKLA	364310	0960756	OK	113	STREAM	1960			8				CE
45	B	51839	07175000	DOUBLE C SUBWATERSHED NO 5 NR RAMON	363050	0955625	OK	147	STREAM	1954	1969		5	5			GS
45	C	67983	07176800	CANDY C NR WOLCO OKLA	363206	0960254	OK	113	STREAM	1969			5				CE
45	C	54705	07176500	BIRD C AT AVANT OKLA	362911	0960345	OK	113	STREAM	1945			8				CE
45	C	54694	07177000	HOMINY C NR SKIATOOK OKLA	362055	0960635	OK	113	STREAM	1944			8				CE
45	D	51846	07178600	VERDIGRIS R NR INCLA OK	360945	0953710	OK	145	STREAM	1947	1971		3				GS
45	D	54714	07178600	VERDIGRTS R NR INOLA OK	360943	0953707	OK	131	STREAM	1944	1971		8				CE
45	D	73568	07178620	NEWT GRAHAM L & D VEDIGRIS R NR INO	360329	0953206	OK	131	STREAM	1971			5				GS
45	F	54700	07179400	COUNCIL GROVE RE NR COU GROVE KANS	384045	0963025	KS	127	RESER	1965			4				CE
45	F	54693	07182450	JOHN REDMOND RE NR BURLINGTON KANS	381415	0964605	KS	031	RESER	1963			4				CE
45	I	51847	07185000	NEOSHO R NR COMMERCE OK	365543	0945726	OK	115	STREAM	1947		*	3				GS
45	H	58040		BELLA VISTA ARK			AR	007	SPRING	1955		*	8			8	850
45	H	58301		SULPHER SPRINGS ARK			AR	007	SPRING	1927		*	8			8	850
45	H	51884	07189000	ELK R NR TIFF CITY MO	3638	09435	MO	119	STREAM	1947		*	3				GS
45	I	58087		DECATUR ARK			AR	007	SPRING	1936		*	8			8	850
45	I	51849	07193500	NEOSHC R BL FT GIBSON LK NR FT GIBS	355115	0951345	OK	021	STREAM	1951			5				GS
45	P	54709	07194500	ARKANSAS R NR MUSKOGEE OK	354610	0951755	OK	101	STREAM	1943	1971		*				CE
45	J	58118		GENTRY ARK			AR	007	STREAM	1935		*	8			8	850
45	J	58293		SILOAM SPRINGS ARK			AR	007	RESER	1935		*	8			8	850
45	J	58285		ROGERS ARK			AR	007	RESER	1935		*	8			8	850
45	J	58042		BENTONVILLE ARK			AR	007	SPRING	1935			8			8	850
45	J	58066		CAVE SPRINGS ARK			AR	007	RESER	1951		*	8			8	850
45	J	58296		SPRINGDALE ARK			AR	143	RESER	1936			8			8	850
45	J	58281		PRAIRIE GROVE ARK			AR	143	SPRING	1935		*	8			8	850
45	J	58178		LINCCLN ARK			AR	143	RESER	1937		*	8			8	850
45	J	85914		TONTITOWN - SPRINGDALE	361100	0941200	AR	143	LAKE	1972			8			8	850
47	J	52533	07202000	CHICORICA C NR HEBRON NM	364610	1042345	NM	007	STREAM	1949			1	1			GS
47	J	52534	07203000	VERMEJC R NR DAWSON NM	364050	1044708	NM	007	STREAM	1945			1	2			GS
47	J	52535	07211500	CANADIAN R NR TAYLOR SPRINGS NM	361749	1092936	NM	007	STREAM	1966			5	7			GS
47	L	52540	07227100	REVUELTO C NR LOGAN NM	352028	1032340	NM	037	STREAM	1959		*	5	7			GS
47	P	68057	07227140	CANADIAN R AB NM TX STATELINE NM	352324	1030236	NM	037	STREAM	1969			5	7			GS
46	R	63324	07228000	CANADIAN R NR CANADIAN TX	355601	1002206	TX	211	STREAM	1967			5	5			GS
46	S	67941	07228500	CANADIAN R AT BRIDGEPORT OKLA	353400	0982245	OK	011	STREAM	1948			3				GS
45	O	54704	07231500	CANADIAN R AT CALVIN OKLA	345832	0961424	OK	063	STREAM	1905		*	4				CE
47	Q	63115	07234000	BEAVER R AT BEAVER OK	364920	1003105	OK	007	STREAM	1957			5				GS
46	T	56861	07236500	FORT SUPPLY RE NR FT SUPPLY OKLA	363314	0993416	OK	153	RESER	1943		*	8				CE
46	U	63116	07238000	N CANADIAN R NR SEILING OK	361106	0985515	OK	093	STREAM	1951		*				7	GS
46	U	56863	07238500	CANTON RE NR CANTON OKLA	360503	0983605	OK	011	RESER	1938		*	8				CE

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NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
46	U	82645	07239450	N CANADIAN R NR FT. RENO, OK	353659	0980357	OK	017	STREAM	1974						7	GS
45	N	54691	07242000	NORTH CANADIAN R NR WETUMKA OKLA	351553	0961225	OK	063	STREAM	1938			8				CE
45	M	51856	07243000	DRY C NR KENDRICK OK	354655	0965120	OK	081	STREAM	1965		*	7				GS
45	R	56928	07245000	CANADIAN R NR WHITEFIELD OK	351545	0951419	OK	061	STREAM	1944		*	3				GS
45	R	54703	07245000	CANADIAN R NR WHITEFIELD OKLA	351545	0951419	OK	061	STREAM	1938			4				CE
45	R	54708	07246500	ARKANSAS R NR SALLISAW OKLA	352058	0944616	OK	135	STREAM	1943	1972		4				CE
45	Q	58317		WALDRON ARK			AR	127	RESER	1936			8			8	850
45	Q	58196		MANSFIELD ARK			AR	131	RESER	1936		*	8			8	850
45	Q	85912		SOUTH SEBASTIAN - FORT SMITH	351500	0942000	AR	131	LAKE	1968			8			8	850
45	Q	85909		HIGHWAY 64-71 WATER CO FORT SMITH	352000	0942600	AR	131	LAKE	1964			8			8	850
45	R	85907		DORA - VAN BUREN	352700	0942700	AR	131	LAKE	1970			8			8	850
45	R	85905		CEDARVILLE - VAN BUREN	353500	0942000	AR	131	LAKE	1969			8			8	850
45	R	85911		OAK GROVE - VAN BUREN	352800	0942700	AR	131	LAKE	1968			8			8	850
45	R	85906		CENTRAL - FORT SMITH	352500	0942000	AR	131	LAKE	1969			8			8	850
44	N	58311		VAN BUREN ARK			AR	033	RESER	1936			8			8	850
44	N	54634	07250500	ARKANSAS R AT VAN BUREN ARK	352542	0942137	AR	033	STREAM	1944			3	*			CE
44	N	58219		MULBERRY ARK			AR	033	STREAM	1935		*	8			8	850
44	N	58115		FORT SMITH ARK			AR	131	RESER	1939			8			8	850
44	N	58019		ALMA ARK			AR	033	RESER	1946		*	8			8	850
44	N	85908		DYER - ALMA	352900	0941000	AR	131	LAKE	1969			8			8	850
44	N	58127		GREENWOOD ARK			AR	131	RESER	1937		*	8			8	850
44	N	58213		MOUNTAINBURG ARK			AR	033	RESER	1946		*	8			8	850
44	N	85910		KIBLER - ALMA	352800	0941500	AR	131	LAKE	1969			8			8	850
44	N	54638	07252000	MULBERRY R NR MULBERRY ARK	3534	09401	AR	047	STREAM	1940		*	8				CE
44	N	58067		CHARLESTON ARK			AR	047	RESER	1935		*	8			8	850
44	N	58300		SUBIACO ARK			AR	083	RESER	1949		*	8			8	850
44	N	58243		PARIS ARK			AR	083	RESER				8			8	850
44	N	54635		ARKANSAS R AT OZARK ARK	352902	0934956	AR	047	STREAM	1930		*	5	*			CE
44	N	85880		BLOOMER - CHARLESTON	352000	0935000	AR	047	RESER	1936			8			8	850
44	N	85891		CARBON CITY	352000	0935000	AR	083	RESER	1973			8			8	850
44	N	51083	07252500	SIX MILE C SWS 6 N CHISMVILLE ARK	351230	0935255	AR	083	STREAM	1957	1970		3	8			GS
44	N	85888		HARTMAN - CLARKSVILLE	352600	0933600	AR	071	STREAM	1968			8			8	850
44	N	54639	07256500	SPADRA C AT CLARKSVILLE ARK	3528	09328	AR	071	STREAM	1961		*	8				CE
44	N	58072		CLARKSVILLE ARK			AR	071	RESER	1937			8			8	850
44	R	58287		RUSSELLVILLE ARK			AR	115	STREAM	1935		*	8			8	850
44	N	85889		KNOXVILLE-CLARKSVILLE	352200	0932000	AR	071	STREAM	1968			8			8	850
44	R	54640	07257500	ILLINOIS BAYOU NR SCOTTSVILLE ARK	3528	09302	AR	115	STREAM	1958		*	8				CE
44	R	58097		DOVER ARK			AR	115	STREAM	1957		*	8			8	850
44	R	54624	07258000	ARKANSAS R AT DARDANELLE ARK	351334	0930858	AR	115	STREAM	1948			8	*			CE
44	O	54641	07258500	PETIT JEAN C NR BOONEVILLE ARK	350625	0935525	AR	083	STREAM	1939		*	4	*			CE

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NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
44	O	58051		BOONEVILLE ARK			AR	083	RESER	1936			8			8	B50
44	D	58234		OLA ARK			AR	149	RESER	1935		*	8			8	B50
44	D	54622	07259000	BLUE MOUNTAIN RE NR WAVELAND ARK	350606	0933902	AR	149	RESER	1947			8				CE
44	O	54642	C7260000	DUTCH C AT WALTREAK ARK	3459	09337	AR	149	STREAM	1946		*	8				CE
44	O	58085		DANVILLE ARK			AR	149	STREAM	1937		*	8			8	B50
44	R	58076		CONWAY ARK			AR	045	STREAM	1935			8			8	B50
44	Q	54643	07261500	FOURCHE LA FAVE R NR GRAVELLY ARK	3452	09339	AR	149	STREAM	1939		*	8				CE
44	Q	58249		PERRYVILLE ARK			AR	105	STREAM	1960			8			8	B50
44	Q	54626	07262000	NIMROD RE NR NIMROD ARK	345707	0930937	AR	105	RESER	1942		*	8				CE
15	D	58228		NORTH LITTLE ROCK ARK			AR	119	RESER	1961		*	8			8	B50
15	D	58179		LITTLE ROCK ARK			AR	119	RESER	1935		*	8			8	B50
15	D	85897		WRIGHTSVILLE - LITTLE ROCK	343800	0921200	AR	119	LAKE	1964			8			8	B50
15	D	85901		GRAVEL RIDGE - NORTH LITTLE ROCK	345200	0921200	AR	119	LAKE	1962			8			8	B50
15	D	85900		MABELVALE - LITTLE ROCK	344500	0921500	AR	119	LAKE	1957			8			8	B50
15	D	85902		DIXIE ACRES - NORTH LITTLE ROCK	344500	0921500	AR	119	LAKE	1930			8			8	B50
15	D	85903		CAMMACK VILLAGE - LITTLE ROCK	344500	0921500	AR	119	LAKE	1942			8			8	B50
15	D	85898		SYLVAN HILLS - NORTH LITTLE ROCK	344500	0921500	AR	119	LAKE	1923			8			8	B50
15	D	85899		SHERWOOD - NORTH LITTLE ROCK	344500	0921500	AR	119	LAKE	1945			8			8	B50
15	D	85904		ALEXANDER - LITTLE ROCK	344000	0922500	AR	119	LAKE	1957			8			8	B50
15	D	54647	07263500	ARKANSAS R AT LITTLE ROCK ARK	344458	0921610	AR	119	STREAM	1939			5	*			CE
50	U	63326	07297910	PRAIRIE DOG TOWN F RED R NR WAYSIDE	345015	1012449	TX	011	STREAM	1967			5	5			GS
50	W	57324	07299200	POT F RED R NEAR LAKEVIEW	343423	1004443	TX	191	STREAM	1964			3				VOO
50	H	63118	07301500	NF RED R NR CARTER OK	351005	0993025	OK	009	STREAM	1948		*	3				GS
50	H	67937	07304500	ELK C NR HOBART OK	345451	0990649	OK	075	STREAM	1949		*	3				GS
50	K	67366	C7308500	RED R NR BURKBURNETT TX	340630	0983200	TX	485	STREAM	1968			5	5			GS
50	N	67371	07312200	BEAVER C NR ELECTRA TX	335421	0985417	TX	485	STREAM	1965			5				GS
50	N	67372	07312500	WICHITA R AT WICHITA FALLS TX	335434	0983200	TX	485	STREAM	1965			5				GS
50	P	67373	07314500	L WICHITA R NR ARCHER CITY TX	333945	0983646	TX	009	STREAM	1953			5				GS
50	P	67374	07315200	E F L WICHITA R NR HENRIETTA TX	334846	0980505	TX	077	STREAM	1965			5				GS
50	S	56851	C7316000	RED R NR GAINESVILLE TEX	334340	0970935	OK	085	STREAM	1936			5				CE
50	S	63341	07316200	MINERAL C NR SADLER TX	334208	0965051	TX	181	STREAM	1967			5				GS
50	Q	69163	07324400	WASHITA R NR FOSS OK	353220	0991010	OK	039	STREAM	1946		*	3				GS
50	Q	51862	07325500	WASHITA R AT CARNEGIE OK	350702	0983349	OK	015	STREAM	1944		*	3				GS
50	R	56849		WASHITA R NR DOUGHERTY OKLA	3427	09706	OK	099	STREAM	1964	1972		3				CE
50	R	51867	07331000	WASHITA R NR DURWOOD OK	341403	0965832	OK	019	STREAM	1944			3				GS
49	D	52765	07331600	RED R AT DENISON DAM NR DENISON TX	334908	0963347	TX	181	STREAM	1944			5	5			GS
49	D	56850	07331500	LK TEXOMA NR DENISON TEX	334905	0963420	OK	013	RESER	1942		*	8				CE
49	A	56860	07332500	BLUE R NR BLUE OKLA	335949	0961427	OK	013	STREAM	1936		*	8				CE
49	B	56859	07335000	CLEAR BOGGY C NR CANEY OKLA	341509	0961219	OK	005	STREAM	1943			8				CE
49	C	56853	07334000	MUDDY BOGGY C NR FARRIS OKLA	341617	0955443	OK	005	STREAM	1938			8				CE

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NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
49	F	56854	07339000	MOUNTAIN FORK NR EAGLETOWN OKLA	340233	0943715	OK	089	STREAM	1938		*	8				CE
49	D	56848	07335400	SANDERS C NR CHICOTA TEX	335115	0953300	TX	277	STREAM	1964			5				CE
49	E	56857	07336500	KIAMICHI R NR BELZONI OKLA	341202	0952903	OK	127	STREAM	1938	1972		8				CE
49	H	70810	07336820	RED R NR DE KALB TX	334115	0944139	TX	037	STREAM	1969			3				VOO
49	G	56855	07337500	LITTLE R NR WRIGHT CITY OKLA	340410	0950247	OK	089	STREAM	1945		*	8				CE
49	G	56858	07337900	GLOVER C NR GLOVER OKLA	340551	0945407	OK	089	STREAM	1961			8				CE
49	G	58095		DEQUEEN ARK			AR	133	STREAM	1935			8			8	B50
49	G	58096		DIERKS ARK			AR	061	RESER	1936		*	8			8	B50
49	T	54777	04075	RED RIVER AT FULTON ARK	333626	0934856	AR	057	STREAM	1962		*	5		5		CE
49	J	57325	07343200	SULPHUR R NR TALCO	332320	0950750	TX	449	STREAM	1962			3				VOO
49	I	57326	07343500	WHITE OAK C NR TALCO	3319	09505	TX	449	STREAM	1963			3				VOO
49	J	54887	16510	SULPHUR R NR NAPLES TEX	3315	09436	TX	037	STREAM	1951		*	8				CE
49	J	54885	16600	SULPHUR R NR TEXARKANA TEX	331815	0940907	TX	067	STREAM	1951			8				CE
49	J	85892		TEXARKANA BI STATE SYSTEM TEXAR TX	332800	0940200	AR	091	LAKE	1958			8			8	B50
49	K	54889	19100	CYPRESS C NR DAINGERFIELD TEX	325419	0944316	TX	343	STREAM	1955		*	8				CE
49	K	54775	19250	CYPRESS C NR JEFFERSON TEX	324450	0943008	TX	315	STREAM	1955		*	8				CE
49	U	54882	04225	RED RIVER AT SHREVEPORT LA	323055	0934425	LA	017	STREAM	1962		*	5		5		CE

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCON-TINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN:		11															
TOTAL:			257														

TEXAS-GULF REGION 12

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
51	B	63515	08022000	SABINE R NR TATUM TEX	322211	0942728	TX	401	STREAM	1968			3				VOO
51	B	57327	08022500	SABINE R AT LOGANSPORT LA	315844	0940058	LA	031	STREAM	1932	1968		3				VOO
51	C	52768	08030500	SABINE R NR RULIFF TX	301813	0934437	TX	351	STREAM	1945			5	5			GS
51	G	57328	08031200	KICKAPOO C NR BROUNSBORO	321834	0953619	TX	213	STREAM	1962			3				VOO
51	G	57331	08033300	PINEY C NR GROVETON	310830	0950510	TX	455	STREAM	1962			3				VOO
51	G	57330	08033000	NECHES R NR DIBOLL	310755	0944830	TX	005	STREAM	1966			3				VOO
51	D	57329	08037050	BAYOU LA NANA AT NACOGDOCHES	313658	0943828	TX	347	STREAM	1965			3				VOO
51	G	52771	08041000	NECHES R AT EVADALE TX	302122	0940536	TX	241	STREAM	1947			5	5			GS
51	J	63372	08044000	BIG SANDY C NR BRIDGEPORT TX	331354	0974140	TX	497	STREAM	1968			3	6	6		GS
51	I	52837	08050200	ELM F TRINITY R SUBWATERSHED 6-0 NR	333713	0972415	TX	097	STREAM	L956	L968		*				GS
51	I	52772	08050300	ELM F TRINITY R NR MUENSTER TX	333637	0972258	TX	097	STREAM	1956	1973		*				GS
51	I	67388	08050500	ELM F TRINITY R NR SANGER TX	332311	0970505	TX	121	STREAM	1966			6	7			GS
51	I	67389	08051000	ISLE DU BOIS C NR PILOT POINT TX	332423	0970045	TX	121	STREAM	1961			6	7			GS
51	I	63374	08051500	CLEAR C NR SANGER TX	332009	0971044	TX	121	STREAM	1966			3	6			GS
51	I	52773	08052650	L ELM C NR CELINA TX	332154	0964925	TX	085	STREAM	1966			3	6			GS
51	I	52774	08052700	L ELM C NR AUBREY TX	331700	0965333	TX	121	STREAM	1966			3	6			GS
51	I	57332	08052700	LITTLE ELM C NR AUBREY	331700	0965333	TX	121	STREAM	1964	1968		3				VOO
51	H	67390	08053500	DENTON C NR JUSTIN TX	330708	0971725	TX	121	STREAM	1966			6	6			GS
51	L	52775	08062500	TRINITY R NR ROSSER TX	322536	0962744	TX	257	STREAM	1954			6	6	6		GS
51	L	57333	08062500	TRINITY R NR ROSSER	322535	0962745	TX	257	STREAM	1938			3				VOO
51	N	52776	08063200	PIN OAK C NR HUBBARD TX	314801	0964302	TX	217	STREAM	1956	1972	*	3	6			GS
51	M	57334	08064500	CHAMBERS C NR CORSICANA	320630	0962215	TX	349	STREAM	1963			3				VOO
51	O	63514	08065350	TRINITY R NR CROCKETT TEX	312020	0953925	TX	225	STREAM	1968			3				VOO
51	O	52779	08065350	TRINITY R NR CROCKETT TX	312008	0953927	TX	225	STREAM	1964			5	5	6		GS
51	O	57335	08066200	LONG KING C NR LIVINGSTON	304258	0945731	TX	373	STREAM	1963			3				VOO
51	O	52781	08066500	TRINITY R AT RCMAYOR TX	302530	0945102	TX	291	STREAM	1945		*	5	6			GS
51	O	57336	08066500	TRINITY R AT ROMAYOR	302530	0945102	TX	291	STREAM	1936			3				VOO
51	Q	52782	08C68000	W F SAN JACINTO R NR CONROE TX	301441	0952726	TX	339	STREAM	1961			5	5	7		GS
51	Q	75624	08068450	PANTHER B NR SPRING TX	300804	0952838	TX	339	STREAM	1972			2	6			GS
51	Q	67405	08068500	SPRING C NR SPRING TEX	300637	0952610	TX	339	STREAM	1961			6	6	7		GS
51	P	57337	08070000	EF SAN JACINTO R NR CLEVELAND	302011	0950614	TX	291	STREAM	1952			3				VOO
51	P	67406	08070500	CANEY C NR SPLENDORA TX	301534	0951808	TX	339	STREAM	1965			6	6	7		GS
54	E	52783	08080500	DMF BRAZOS R NR ASPERMONT TX	330036	1001048	TX	433	STREAM	1948		*	3	3			GS
54	D	52789	08082000	SALT F BRAZOS R NR ASPERMONT TX	332001	1001416	TX	433	STREAM	1948		*	5	5			GS
54	G	52792	08C82500	BRAZOS R AT SEYMCUR TX	333451	0991602	TX	023	STREAM	1959			5	5			GS
54	F	63383	08083240	CLEAR F BRAZOS R AT HAWLEY TX	323553	0994853	TX	253	STREAM	1967			6	6	6		GS
54	F	57338	08C84800	CALIFORNIA C NR STAMFORD	325550	0993830	TX	253	STREAM	1964			3				VOO
53	A	52796	08086100	HUBBARD C NR ALBANY TX	324121	0990952	TX	417	STREAM	1962			6	6	6	6	GS
53	A	52797	08086120	SALT PR HUBBARD C AT HWY 380 NR ALB	324101	0991605	TX	417	STREAM	1963			*	*	*	*	GS
53	A	52798	08C86150	N F HUBBARD C NR ALBANY TX	324227	0991629	TX	417	STREAM	1962			6	6	6		GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
53	A	52800	08086300	BIG SANDY C NR BRECKENRIDGE TX	323952	0990001	TX	429	STREAM	1962			6	6	6		GS
53	B	57339	08C87300	CLEAR F OF BRAZOS R AT ELIASVILLE	325730	0984610	TX	503	STREAM	1966			3				VOO
53	C	57340	08088000	BRAZOS R NR SOUTH BEND	330130	0983850	TX	503	STREAM	1942			3				VOO
53	C	57323	08088600	BRAZOS R AT POSSUM KINGDOM DAM	3252	09826	TX	363	STREAM	1942			3				VOO
53	C	57342	08093500	AQUILLA C NR AQUILLA	315040	0971206	TX	217	STREAM	1963			3				VOO
53	D	57341	08094800	N BOSQUE R AT HICO	315839	0980205	TX	193	STREAM	1962			3				VOO
53	L	63391	08098290	BRAZOS R NR HIGHBANK TX	310802	0964929	TX	145	STREAM	1967			5	5			GS
53	L	67429	08098300	L POND C AT BURLINGTON TX	310135	0965917	TX	331	STREAM	1966			6	6	6		GS
53	G	57343	08100500	LEON R AT GATESVILLE	312605	0974535	TX	099	STREAM	1953			3				VOO
53	F	67430	08103900	SF ROCKY C NR BRIGGS TX	305441	0980212	TX	053	STREAM	1961			5	6	6		GS
53	J	67431	08109800	E YEGUA C NR DIME BOX TX	302426	0964902	TX	051	STREAM	1960			6	6	7		GS
53	J	57345	08110000	YEGUA C NR SOMERVILLE	301918	0963027	TX	051	STREAM	1962			3				VOO
53	J	67432	08110100	DAVIDSON C NR LYONS TX	302510	0963224	TX	051	STREAM	1966			6	6	7		GS
53	K	57344	08110500	NAVASOTA R NR EASTERLY	311013	0961755	TX	395	STREAM	1962		*	3				VOO
52	B	67434	08111700	MILL C NR BELLVILLE TX	295251	0961218	TX	015	STREAM	1965			6	6	7		GS
52	B	52812	08114000	BRAZOS R AT RICHMOND TX	293456	0954527	TX	157	STREAM	1945			3	6	7		GS
52	B	57346	08114000	BRAZOS R AT RICHMOND	304504	0984010	TX	157	STREAM	1924			3				VOO
54	L	52817	08123800	BEALS C NR WESTBROOK TX	321157	1010049	TX	335	STREAM	1958			5	5			GS
53	Q	57348	08146000	SAN SABA R AT SAN SABA	311250	0984240	TX	411	STREAM	1966			3				VOO
53	R	52821	08147000	COLORADO R NR SAN SABA TX	311304	0983351	TX	411	STREAM	1947			*	*	*		GS
53	R	57347	08147000	COLORADO R NR SAN SABA	311305	0983350	TX	411	STREAM	1930			3				VOO
52	H	57350		COLORADO R AT INKS DAM	3044	09823	TX	053	STREAM	1942	1963		3				VOO
52	H	57322	08148000	COLORADO R AT BUCHANAN DAM	304505	0982500	TX	053	STREAM	1947			3				VOO
52	F	57349	08151500	LLANO R AT LLANO	304504	0984010	TX	299	STREAM	1942			3				VOO
52	F	67437	08152000	SANDY C NR KINGSLAND TX	303330	0982819	TX	299	STREAM	1966			6	6			GS
52	G	57351	08153500	PEDERNALES R AT JOHNSON CITY	301727	09823	TX	031	STREAM	1942	1967		3				VOO
52	I	52823	08158000	COLORADO R AT AUSTIN TX	301440	0974139	TX	453	STREAM	1947			5	5			GS
52	I	57352	C8158000	COLORADO R AT AUSTIN	301440	0974139	TX	453	STREAM	1937			3				VOO
52	I	52824	08161000	COLORADO R AT COLUMBUS TX	294222	0963212	TX	089	STREAM	1957			3	3			GS
52	I	52825	08162000	COLORADO R AT WHARTON TX	291832	0960613	TX	481	STREAM	1944			5	5			GS
52	K	57354	08164000	LAVACA R NR EDNA	285735	0964845	TX	239	STREAM	1965			3				VOO
52	J	57353	08164300	NAVIDAD R NR HALLETSVILLE	292800	0964845	TX	285	STRFAM	1962			3				VOO
52	J	52826	08164500	NAVIDAD R NR GANADO TX	290132	0963308	TX	239	STREAM	1959			5	5			GS
52	L	57355	08167500	GUADALUPE R NR SPRING BRANCH	295140	0982300	TX	091	STREAM	1942			3				VOO
52	N	57356	0817650	GUADLUPE R AT VICTORIA	284735	0970045	TX	469	STRFAM	1945			3				VOO
52	O	67443	08177600	OLMOS C TR AT FARM ROAD 1535 SHAVAN	293435	0983245	TX	029	STREAM	1968			6				GS
52	O	67444	08177700	OLMOS C AT DRESDEN DR SAN ANTONIO T	292956	0983036	TX	029	STREAM	1968			4				GS
52	O	67446	08178000	SAN ANTONIO R AT SAN ANTONIO TX	292434	0982941	TX	029	STREAM	1968			6				GS
52	O	67447	08178300	ALAZAN C AT ST CLOUD ST SAN ANTONIO	292729	0983106	TX	029	STREAM	1968			6				GS
52	O	67448	08178600	PANTHER SP C AT FARM RD 2696 NR SAN	293731	0983106	TX	029	STREAM	1968			6				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
52	O	67449	08178690	SALADO C TR AT RITTERS RD SAN ANTON	293136	0982625	TX	029	STREAM	1968			6				GS
52	O	67450	C8178700	SALADC C (UPPER STATION) SAN ANTONI	293057	0982551	TX	029	STREAM	1968			6				GS
52	O	69144	08178736	SALADO C TR AT BEE ST SAN ANTONIO T	292638	0982712	TX	029	STREAM	1970			6				GS
52	O	67451	08178800	SALADO C LOWER STA AT SAN ANTONIO T	292125	0982445	TX	029	STREAM	1968			6				GS
52	O	67452	08181000	LEON C TR AT FARM ROAD 1604 SAN ANT	293514	0983740	TX	029	STREAM	1968			6				GS
52	O	67453	08181400	HELOTES C AT HELOTES TX	293442	0984129	TX	029	STREAM	1968			6				GS
52	O	69145	C8181450	LEON C TR AT KELLY AFB TX	292312	0983600	TX	029	STREAM	1969			6				GS
52	O	63407	08183500	SAN ANTONIO R NR FALLS CITY TX	285705	0980350	TX	255	STREAM	1966			6	7			GS
52	P	67454	C8186CC0	CIBOLO C NR FALLS CITY TX	290050	0975548	TX	255	STREAM	1961			6	7			GS
52	P	57357	08186000	CIBOLO C NR FALLS CITY	290050	0975548	TX	255	STREAM	1963			3				VOO
52	Q	67455	C8186500	ECLETO C NR RUNGE TX	285512	0974619	TX	255	STREAM	1960			6	7			GS
52	Q	52828	081885C0	SAN ANTONIO R AT GOLIAD TX	283858	0972304	TX	175	STREAM	1945			5	5			GS
52	Q	57358	C8188500	SAN ANTONIO R AT GOLIAD	283858	0972304	TX	175	STREAM	1942			3				VOO
52	S	67456	C8189700	ARANSAS R NR SKIDMORE TX	281656	0973714	TX	025	STREAM	1961			6	7			GS
52	W	57359	08194000	NUECES R AT COTULLA	282532	0991426	TX	283	STREAM	1942			3				VOO
52	AA	57360	C8207000	FRIO R AT CALLIHAM	28293U	0982045	TX	311	STREAM	1953			3				VOO
52	AB	63409	08210000	NUECES R NR THREE RIVERS TX	282610	0981106	TX	297	STREAM	1941			5	5			GS
52	AB	57361	U8211000	NUECES R NR MATHIS	280217	0975136	TX	409	STREAM	1942		*	3				VOO
55	O	83961	08212400	LOS OLMOS C NR FALFURRIAS TX	271551	0980808	TX	047	STREAM	1974			5	5			GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCONTINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN: 12																	
TOTAL: 69																	

RIO GRANDE REGION 13

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
48	Q	52543	08266800	RED R AT FISH HATCH NR QUESTA NM	364107	1053905	NM	055	STREAM	1966			5	7			GS
48	P	52545	08286500	RIO CHAMA AB ABIQUIU RE NM	361906	1063550	NM	039	STREAM	1962			3	2			GS
48	P	52546	C8287000	RIO CHAMA BL ABIQUIU DAM NM	361412	1062459	NM	039	STREAM	1962			3	2			GS
48	P	52547	C8290000	RIO CHAMA NR CHAMITA NM	360426	1060640	NM	039	STREAM	1937			1	2			GS
57	L	52548	08313000	RIO GRANDE AT O B N SAN ILDE N M	355229	1060830	NM	049	STREAM	1934			1	2			GS
57	B	52549	08318000	GALISTEO C AT DOMINGO NM	353045	1061900	NM	043	STREAM	1948	1971		3	8			GS
57	B	74159	08317950	GALISTEO C BL GALISTEO DAM NM	352756	1061257	NM	049	STREAM	1971			1	2			GS
57	A	52551	08329000	JEMEZ R BL JEMEZ CANYON DAM NM	352324	1063203	NM	043	STREAM	1953			3	2			GS
57	A	63700		JEMEZ R BL JEMEZ CANY DAM N MEX	352310	1063145	NM	043	STREAM	1959			4	5			CE
57	G	52552	08329100	BERNALILLO FLOOD RE 1 NR BERNALILLO	351850	1063144	NM	043	STREAM	1956			2	2			GS
57	G	52553	08329500	RIO GRANDE NR BERNALILLO N MEX	351705	1063545	NM	043	STREAM	1947	1969		3	8			GS
57	G	68056	08330000	RIO GRANDE AT ALBUQUERQUE NM	350521	1064048	NM	001	STREAM	1940			1	2			GS
57	G	74158	08331000	RIO GRANDE AT ISLETA NM	345421	1064104	NM	061	STREAM	1927			3				GS
57	G	52554	08331990	RIO GRANDE CONVEYANCE CHANNEL NR BE	342452	1064811	NM	053	CANAL	1964			1	2			GS
57	G	52555	C8332010	RIO GRANDE FLOODWAY NR BERNARDO NM	342501	1064800	NM	053	STREAM	1964			1	2			GS
57	G	52556	08332050	BERNARDO INT DR NR BERNARDO N MEX	342455	1064915	NM	053	DRAIN	1964	1968		3	8			GS
57	E	52558	08353000	RIO PUERCO NR BERNARDO NM	342433	1065109	NM	053	STREAM	1926			1	2			GS
57	F	52559	08354000	RIO SALADO NR SAN ACACIA NM	341750	1065400	NM	053	STREAM	1948			2	5			GS
57	G	52560	08354800	RIO GRANDE CONVEYANCE CHANNEL AT SA	341555	1065400	NM	053	CANAL	1959			1	2			GS
57	G	52561	C8354900	RIO GRANDE FLOODWAY AT SAN ACACIA N	341528	1065330	NM	053	STREAM	1927			1	2			GS
57	G	52562	08358300	RIO GRANDE CONVEYANCE CHANNEL AT SA	334120	1065935	NM	053	CANAL	1954			3	2			GS
57	G	52563	08358400	RIO GRANDE FLOODWAY AT SAN MARCIAL	334050	1065915	NM	053	STREAM	1897			3	2			GS
57	K	52565	08363700	TORTUGAS ARROYO NR LAS CRUCES NM	321720	1064345	NM	013	STREAM	1963			1	2			GS
57	K	55825	08-3640.00	RIO GRANDE AT EL PASO TX	314810	1063225	TX	141	STREAM	1930	1948		*				IBW
56	Z	83962	08370500	RIO GRANDE AT FORT QUITMAN TEX	310505	1053625	TX	229	STREAM	1974			5	5			GS
56	C	55830	08-3742.00	RIO GRANDE BL RIO CONCHOS N PRES	293100	1041735	TX	377	STREAM	1950			*				IBW
56	J	55831	08-3750.00	RIO GRANDE AT JOHNSON RCH TX	293205	1032330	TX	043	STREAM	1948			*				IBW
56	J	83963	08377200	RIO GRANDE AT FOSTER RANCH TEX	294650	1014520	TX	465	STREAM	1974			5	5			GS
56	J	55832	08-3775.00	RIO GRANDE AT LANGTRY TX	294800	1013330	TX	465	STREAM	1945			*				IBW
58	B	52566	C8377900	RIO MORA NR TERRERO NM	354638	1053927	NM	047	STREAM	1962			5	7			GS
58	B	56383	08379500	PECOS R NR ANTON CHICO NM	351044	1050630	NM	019	STREAM	1939			7				GS
58	B	52568	08383000	PECOS R AT SANTA ROSA NM	345636	1044155	NM	019	STREAM	1905			1	2			GS
58	I	70430	C8384500	PECOS R BL ALAMOGORDO DAM N M	343615	1042314	NM	011	STREAM	1937		*	2				GS
58	K	52572	C8396500	PECOS R NR ARTESIA NM	325025	1041923	NM	015	STREAM	1937			3	2			GS
58	J	52573	08398500	RIO PENASCO AT DAYTON NM	324436	1042449	NM	015	STREAM	1951	1972		2	2			GS
58	K	52581	08405000	PECOS R AT CARLSBAD NM	322503	1041327	NM	015	STREAM	1899		*	2				GS
58	K	52583	08406500	PECOS R NR MALAGA NM	321226	1040122	NM	015	STREAM	1937			5	7			GS
56	K	52585	C8407500	PECOS R AT RED BLUFF NM	320430	1040221	NM	015	STREAM	1937			5	7			GS
56	T	55833	08-4474.00	PECOS R NR SHUMLA TX	294920	1012435	TX	465	STREAM	1955			*				IBW
56	T	83964	08447410	PECOS R NR LANGTRY TEX	294810	1012645	TX	465	STREAM	1974			5	5			GS

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD BEGAN	PERIOD OF RECORD DISCON-TINUED	INTERRUPTED RECORD	SEDIMENT CONCENTRATION (SUSPENDED)	SEDIMENT PARTICLE SIZE (SUSPENDED)	SEDIMENT PARTICLE SIZE (BED MATERIAL)	SEDIMENT OTHER	AGENCY REPORTING
56	M	55835	08-4525.00	RIO GRANDE NR DEL RIO TX	291935	1005540	TX	465	STREAM	1955			*				IBW
55	L	62944	08-4589.40	RIO GRANDE AT LAREDO WATER PLANT TX	273125	0993125	TX	479	STREAM	1932		*	3				IBW
55	L	55838	08-4590.00	RIO GRANDE AT LAREDO TX	272950	0992940	TX	479	STREAM	1956			*				IBW
55	M	55840	08-4613.00	RIO GRANDE BL FALCON DAM TX	263325	0991005	TX	427	STREAM	1956			4				IBW
55	M	55841	08-4647.00	RIO GRANDE AT FT RINGGOLD TX	262205	0984820	TX	427	STREAM	1959			4				IBW
55	M	55842	08-4663.00	RIO GRANDE NR LOS EBANOS TX	2614	09834	TX	215	STREAM	1956			4				IBW
55	M	52761	08470300	ARROYO COLORADO AT EL FUSTE TX	260745	0975445	TX	215	STREAM	1966			4	6			GS
55	G	52833	08470200	N FLOODWAY NR SEBASTIAN TX	261854	0974637	TX	061	STREAM	1966			4	6			GS
55	M	55845		RIO GRANDE BL ANZALDUAS DAM TX	260800	0982005	TX	215	STREAM	1956			*				IBW
55	M	55848	08-4737.00	RIO GRANDE NR SAN BENITO TX	260200	0974340	TX	061	STREAM	1955			4				IBW
55	M	52834	08475000	RIO GRANDE NR BROWNSVILLE TX	255235	0972715	TX	061	STREAM	1966			5	5			GS
55	M	55849	08-4750.00	RIO GRANDE NR BROWNSVILLE TX	255235	0972715	TX	061	STREAM	1934			*				IBW
57	I	56385	08476300	MIMBRES R AT MCKNIGHT DAMSITE N M	325612	1080052	NM	017	STREAM	1967			5	8			GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCONTINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN:		13															
TOTAL:			53														

UPPER COLORADO REGION 14

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD BEGAN	PERIOD OF RECORD DISCONTINUED	INTERRUPTED RECORD	SEDIMENT CONCENTRATION (SUSPENDED)	SEDIMENT PARTICLE SIZE (SUSPENDED)	SEDIMENT PARTICLE SIZE (BED MATERIAL)	OTHER	AGENCY REPORTING
63	A	77601		HOMESTAKE RESERVOIR	392208	1062748	CO	097	RESER	1967			8	8			C52
63	A	76234	09067320	BOCO MTN. NO.1 RE NR. WALCOTT, CO.	394427	1064049	CO	037	LAKE	1965						7	GS
63	A	76235	09067330	BOCO MTN. NO.2 RE NR. WOLCOTT, CO.	394432	1064057	CO	037	LAKE	1965						7	GS
63	A	76236	09067340	BOCO MTN. NO.3 RE NR. WOLCOTT, CO.	394431	1064059	CO	037	LAKE	1965						7	GS
63	A	76237	09067350	BOCO MTN. NO.4 RE NR. WOLCOTT, CO.	394428	1064100	CO	037	LAKE	1965						7	GS
63	C	51247	09070500	COLO R NR DOTSERO COLO	393849	1070440	CO	037	STREAM	1959			*	*			GS
63	C	51249	09072500	COLO R AT GLENWOOD SPRINGS COLO	393300	1071920	CO	045	STREAM	1959	1966		*				GS
63	B	51250	09085000	ROARING F R AT GLENWOOD SPRINGS	393250	1071950	CO	045	STREAM	1959	1972	*	*				GS
63	J	68533	09093700	COLORADO R NR DE BEQUE COLO	392145	1080907	CO	077	STREAM	1969			*				GS
63	J	76953	09093700	COLORADO R NR DE BEQUE CO	392145	1080907	CO	077	STREAM	1970			5				GS
63	G	51253	09149500	UNCOMPAHGRE R AT DELTA COLO	384430	1080450	CO	029	STREAM	1958			*	*			GS
63	G	51252	09152500	GUNNISON R NR GRAND JUNCTION COLO	3859	10827	CO	077	STREAM	1931			*				GS
63	J	76239	09153500	OBSERVATION RE NO.10 NR. MACK, CO.	392115	1085558	CO	077	LAKE	1954						7	GS
63	J	76240	09154000	OBSERVATION RE NO. 6 NR MACK, CO.	392059	1085504	CO	077	LAKE	1954						7	GS
63	J	76241	09154500	OBSERVATION RE NO.5 NR. MACK, CO.	392104	1085633	CO	077	LAKE	1954						7	GS
63	J	76242	09155000	OBSERVATION RE 1-A NR. MACK, CO.	392048	1085619	CO	077	LAKE	1954						7	GS
63	J	76243	09155500	OBSERVATION RE 1-B NR MACK, CO.	392034	1085610	CO	077	LAKE	1954						7	GS
63	J	76244	09156500	OBSERVATION RE 3-A NR. MACK, CO.	392045	1085554	CO	077	LAKE	1954						7	GS
63	J	76245	09157000	OBSERVATION RE 3-B NR. MACK, CO.	392036	1085550	CO	077	LAKE	1954						7	GS
63	J	76246	09157500	OBSERVATION RE NO.11 NR. MACK, CO.	392020	1085552	CO	077	LAKE	1954						7	GS
63	J	76247	09158000	OBSERVATION RE. NO.7 NR. MACK, CO	392023	1085633	CO	077	LAKE	1954						7	GS
63	J	76248	09158500	OBSERVATION RE. NO.8 NR MACK, CO.	392017	1085631	CO	077	LAKE	1954						7	GS
63	J	76250	09159000	OBSERVATION RE 2-B NR. MACK, CO.	392006	1085626	CO	077	LAKE	1954						7	GS
63	J	76251	09159500	OBSERVATION RE 4-B NR MACK, CO.	391957	1085554	CO	077	LAKE	1954						7	GS
63	J	76252	09160000	OBSERVATION RE 4-A NR. MACK, CO.	391950	1085551	CO	077	LAKE	1954						7	GS
63	J	76249	09160500	OBSERVATION RE NO. 12 NR. MACK, CO.	391923	1085549	CO	077	LAKE	1954						7	GS
63	J	76253	09161000	OBSERVATION RE 2-A NR MACK, CO.	391941	1085633	CO	077	LAKE	1954						7	GS
63	J	76254	09161500	OBSERVATION RE 2-A (SUPPLEMENTAL) N	391941	1085633	CO	077	LAKE	1954						7	GS
63	J	76255	09162500	OBSERVATION RE NO.9 NR. MACK, CO.	391920	1085633	CO	077	LAKE	1954						7	GS
63	J	76238	09162800	OBSERVATION RE NO.14 NR MACK, CO	391920	1085641	CO	077	LAKE	1954						7	GS
63	M	50932	09180500	COLORADO R NR CISCO UT	384838	1091734	UT	019	STREAM	1928			3	5			GS
64	D	51060	09207700	DRY PINEY C NR BIG PINEY WY	422325	1101509	WY	035	STREAM	1966	1973		3	6			GS
64	C	73508	09213500	BIG SANDY R NR FARSON WY	421901	1092906	WY	035	STREAM	1962			5				GS
64	C	63104	09216000	BIG SANDY R BL EDEN WY	420037	1093457	WY	037	STREAM	1961		*	5				GS
64	U	51062	09217000	GREEN R NR GREEN RIVER WY	413059	1092654	WY	037	STREAM	1951			3	6			GS
64	G	51063	09222000	BLACKS F NR LYMAN WY	412708	1101020	WY	041	STREAM	1962			5				GS
64	G	51065	09224700	BLACKS F NR LITTLE AMERICA WY	413246	1094134	WY	037	STREAM	1951			5	6			GS
64	U	50937	09234500	GREEN R NR GREENDALE UT	405430	1092520	UT	009	STREAM	1956			3	5			GS
64	P	74171	09234700	RED C NR DUTCH JOHN UT	405811	1091412	UT	009	STREAM	1971			2	5	5		GS
64	K	51254	09251000	YAMPA R NR MAYBELL CO	403010	1080145	CO	081	STREAM	1950			3				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
64	J	76268	09255000	SLATER F NR SLATER CO	405854	1072258	CO	081	STREAM	1952			*				GS
64	J	73509	09257000	L SNAKE R NR DIXON WY	410142	1073255	WY	007	STREAM	1971			5				GS
64	J	51262	09259900	LITTLE SNAKE AB LILY COLO	403627	1082011	CO	081	STREAM	1950	1969		*	*			GS
64	P	50938	09261000	GREEN R NR JENSEN UT	402434	1091405	UT	047	STREAM	1947		*	3	5			GS
64	M	55732		WHITEROCKS R NR WHITEROCKS UT	403400	1095540	UT	047	STREAM	1963						*	BR
64	O	73780	09306200	PICEANCE C BL RYAN GULCH NR RIO BLA	395516	1081749	CO	103	STREAM	1970			3	7			GS
64	O	76934	09306300	WHITE R AB RANGELY CO	400626	1084244	CO	103	STREAM	1972			5	6			GS
64	O	76233	09306705	BOULEVARD RIDGE RE 1 TWO WATERS C	394230	1090730	UT	047	LAKE	1970			7	7			GS
64	O	81511	09306710	BOULEVARD RIDGE RE 2 TWO WATERS CRE	394230	1090730	UT	047	LAKE	1970			7	7			GS
64	Q	50941	09307000	GREEN R NR OURAY UT	400420	1094340	UT	047	STREAM	1950	1966		3	5	6		GS
64	T	50943	09315000	GREEN R AT GREEN R UT	385910	1100902	UT	015	STREAM	1928			3	5			GS
64	S	85082	5	BLACK CANYON AT BRIDGE	392236	1111622	UT	015	STREAM	1970			8				FS
64	S	85083	6	INDIAN CREEK AT GAGING STATION	392100	1111611	UT	015	STREAM	1972			8				FS
64	S	85085	8	REEDER CANYON BL SUMMER HOME SITE	392016	1111644	UT	015	STREAM	1971			8				FS
64	S	85086	26	INDIAN CREEK AT ROAC CULVERT	392052	1111613	UT	015	STREAM	1970	1972		8				FS
64	S	85087	4	LOWRY WATER AT GAGING STATION	391919	1111634	UT	015	STREAM	1967			8				FS
64	S	85091	14	SEELY CREEK AT GAGING STATION	391739	1111744	UT	015	STREAM	1967			8				FS
64	S	85093	16	SWASEY CREEK BL SUMMER HOME SITE	391633	1111658	UT	015	STREAM	1967			8				FS
64	S	85096		LITTLES CREEK AT GAGING STATION	391814	1111759	UT	015	STREAM	1970			8				FS
64	S	85097	11	LITTLES CREEK AT HIWAY BRIDGE	391815	1111724	UT	015	STREAM	1967			8				FS
64	S	85099	2	STRAIGHT CANYON AT FOREST BNDRY	391636	1111115	UT	015	STREAM	1967			8				FS
64	S	85112	203	FERRON CREEK USGS STATION	390604	1111247	UT	015	STREAM	1972			8				FS
64	S	50944	09328500	SAN RAFAEL R NR GREEN R UT	385220	1102220	UT	015	STREAM	1946		*	3				GS
63	K	67152	09330210	PLEASANT C NR CAINVILLE UT	381620	1110530	UT	055	STREAM	1969	1972		3	5	5		GS
63	K	56332	09330230	FREMONT R NR CAINVILLE UT	381640	1110400	UT	055	STREAM	1967	1972		3	6	2		GS
63	K	85115	204	MUDDY C AT USGS STATION	385900	1111449	UT	015	STREAM	1972			8				FS
61	D	68818	09341200	WOLF C NR PAGOSA SPRINGS CO	372647	1065300	CO	079	STREAM	1970			5	7			GS
61	D	76279	09343000	RIO BLANCO NR PAGOSA SPRINGS CO	371246	1064738	CO	007	STREAM	1972			5				GS
61	D	76936	09343300	RIO BLANCO BL BLANCO DIV. DAM NR PA	371211	1064845	CO	007	STREAM	1972			5				GS
61	D	76937	09343400	NAVAJO R AB CHROMO CO	370830	1065024	CO	007	STREAM	1972			5				GS
61	D	76938	09343600	RIO BLANCO AT MOUTH NR TRUJILLO, CO	370724	1070235	CO	007	STREAM	1972			5				GS
61	D	76939	09344300	NAVAJO RIVER AB CHROMO CO	370155	1064356	CO	007	STREAM	1972			5	7			GS
61	D	76940	09344450	NAVAJO R BL OSO DIVERSION DAM NR CH	370148	1064416	CO	007	STREAM	1972			5				GS
61	D	68055	09346000	NAVAJO R AT EDITH CO	370010	1065425	CO	007	STREAM	1957			6	7			GS
61	D	76941	09346100	NAVAJO R AB AMARCO C NR DULCE NM	375717	1070326	CO	039	STREAM	1972			5				GS
61	D	76942	09346300	NAVAJO R. AT MOUTH NR JUANITA CO	370126	1070756	CO	007	STREAM	1972			5				GS
61	D	68048	09346400	SAN JUAN R NR CARRACAS CO	370043	1071834	CO	007	STREAM	1969			6	7			GS
61	A	68815	09347200	MF PIEDRA R NR PAGOSA SPRINGS CO	372912	1070946	CO	053	STREAM	1970			5	7			GS
61	A	68054	09349800	PIEDRA R NR ARBOLES CO	370517	1072352	CO	007	STREAM	1969			6	7			GS
61	D	51261	09352900	VALLECITO C NR BAYFIELD CO	372839	1073235	CO	067	STREAM	1962			5				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
61	D	68053	09354500	LOS PINOS R AT LA BOCA CO	370037	1073549	CO	067	STREAM	1956			6	7			GS
61	D	52587	09355500	SAN JUAN R NR ARCHULETA NM	364805	1074151	NM	045	STREAM	1954			3	2			GS
61	C	68816	09357500	ANIMAS R AT HOWARDSVILLE CO	374959	1073556	CO	111	STREAM	1957			5	7			GS
61	C	68817	09358900	MINERAL C AB SILVERTON CO	375104	1074331	CO	111	STREAM	1970			5	7			GS
61	C	68052	09363500	ANIMAS R NR CEDAR HILL NM	370215	1075225	CO	067	STREAM	1969			6	7			GS
61	C	52589	09364500	ANIMAS R AT FARMINGTON NM	364312	1081208	NM	045	STREAM	1940			1	2			GS
61	H	68919	09367500	LA PLATA R NR FARMINGTON N M	364423	1081451	NM	045	STREAM	1957	1972		6				GS
61	H	52551	09368000	SAN JUAN R AT SHIPROCK N M	364735	1084355	NM	045	STREAM	1941			1	2			GS
61	J	63320	09378700	COTTONWOOD WASH NR BLANDING UT	373338	1093441	UT	037	STREAM	1968	1971		3	5	5		GS
61	J	50945	09379500	SAN JUAN R NR BLUFF UT	370849	1095151	UT	037	STREAM	1927			3	5	5		GS
62	D	54394	09380000	COLORADO R AT LEES FERRY AZ	365153	1113515	AZ	005	STREAM	1926		*	4	*	*		GS
62	A	54395	09382000	PARIA R AT LEES FERRY AZ	365220	1113538	AZ	005	STREAM	1947			3	6	6		GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCON-TINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN:		14															
TOTAL:			92														

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	

LOWER COLORADO REGION 15

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	BEGAN	DISCONTINUED	INTERRUPTED RECORD	CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	AGENCY REPORTING
61	N	54396	09395900	BLACK C NR LUPTON ARIZ	352700	1090800	AZ	001	STREAM	1965	1968		*	*			GS
61	W	54397	09401200	LITTLE COLORADO R AT CAMERON ARIZ	355240	1112440	AZ	005	STREAM	1947	1970		*	*	*		GS
61	V	84031	09401250	MOENKOPI WASH NR MOENKOPI AZ	360636	1110919	AZ	005	STREAM	1972			3	6	6		GS
61	W	68038	09402000	LITTLE COLORADO R NR CAMERON ARIZ	355535	1113400	AZ	005	STREAM	1947			*	*			GS
62	L	54398	09402500	COLORADO R NR GRAND CANYON AZ	360605	1120508	AZ	005	STREAM	1925			3	6	6		GS
62	B	54400	09403780	KANAB C NR FREDONIA AZ	365150	1123445	AZ	005	STREAM	1963	1973		3	6	6		GS
62	I	50946	09406000	VIRGIN R AT VIRGIN UT	371155	1131225	UT	053	STREAM	1950	1971		3	8			GS
62	I	56333	09408150	VIRGIN R NR HURRICANE UT	370945	1132342	UT	053	STREAM	1967	1974		3	5	6		GS
62	I	50947	09410000	SANTA CLARA R AB WD NR SANT C UTAH	371305	1134635	UT	053	STREAM	1950	1968	*	3	8	6		GS
62	I	72817	09415000	VIRGIN R AT LITTLE FIELD AZ	365327	1135530	AZ	015	STREAM	1947			3	5	5		GS
62	K	66555		LAKE MEAD IN ICEBERG CANYON	3611	11404	NV	003	RESER	1937						7	BR
62	K	66554		LAKE MEAD AT SANDY POINT	3607	11407	NV	003	RESER	1937						7	BR
62	K	66553		LAKE MEAD IN VIRGIN CANYON	3601	11412	NV	003	RESER	1937						7	BR
62	K	66552	C-6A	LAKE MEAD AT CONFLNCE VIRGIN RIVER	3627	11421	NV	003	RESER	1937						7	BR
62	K	66551	C-5	LAKE MEAD AT VIRGIN NARROWS LOWER	3616	11424	NV	003	RESER	1937						7	BR
62	K	66550	18	LAKE MEAD AT BOULDER CANYON	3608	11437	NV	003	RESER	1937						7	BR
62	K	66549		LAKE MEAD AT HOOVER DAM INTAKE	360058	1144413	NV	003	RESER	1937						5	BR
59	F	66387		COLORADO R AT NEEDLES BRIDGE	345020	1143520	CA	071	STREAM	1955			5	5	5		BR
59	F	67564		COLORADO R NEAR TOPOCK	344115	1142745	AZ	015	STREAM	1964			5	5	5		BR
59	F	66396		COLORADO R AT RIVER SECTION 43	343715	1142600	CA	071	STREAM	1964			5	5	5		BR
59	Q	66395		COLORADO R AT WATER WHEEL	335535	1143210	CA	065	STREAM	1964			5	5	5		BR
59	Q	66394		COLORADO R BL PALO VERDE DAM	334310	1142950	CA	025	STREAM	1964			5	5	5		BR
59	Q	66386		COLORADO R AT TAYLOR FERRY	332550	1143735	CA	025	STREAM	1964			5	5	5		BR
60	C	52592	09430500	GILA R NR GILA NM	330340	1083212	NM	017	STREAM	1959	1967	*	3	5			GS
60	C	56386	09430600	MOGOLLON C NR CLIFF NM	331001	1083858	NM	017	STREAM	1967			5	7			GS
60	C	68051	09433500	SUNSET CA AB NM-AZ STATELINE	324142	1090248	NM	023	CANAL	1969	1972		6	7			GS
60	C	68050	09436500	NEW MODEL CA AT NM-AZ STATE LINE	324054	1090248	NM	023	CANAL	1969	1972		6	7			GS
60	C	68049	09438000	GILA R AB NM-AZ STATELINE NM	324112	1090250	NM	043	STREAM	1967			6	7			GS
60	A	52593	09444000	SAN FRANCISCO R NR GLENWOOD NM	331450	1085245	NM	003	STREAM	1963			5	7			GS
60	A	54407	09444500	SAN FRANCISCO R AT CLIFTON ARIZ	330257	1091743	AZ	011	STREAM	1963	1967		5	2			GS
60	C	54408	09448500	GILA R AT HEAD OF SAFFORD VALLEY NR	325206	1093038	AZ	009	STREAM	1965			3	6	7		GS
60	P	54409	09460200	FRYE C AT THATCHER ARIZ	325000	1094540	AZ	009	STREAM	1963			3	2			GS
60	P	72929	G 12	DRIPPING SPRINGS WASH AB GILA R	3305	11043	AZ	007	STREAM	1967			8				B03
60	P	72930	G11	GILA R BL DRIPPING SPRINGS WASH	3305	11043	AZ	021	STREAM	1971			8				B03
60	C	57877	G 13	GILA R AB DRIPPING SPRINGS WA	3305	11043	AZ	021	STREAM	1967		*	8				B03
60	C	74231	G11	GILA R BL DRIPPING SPRINGS WA	3305	11043	AZ	021	STREAM	1971			8				B03
60	E	54410	09471000	SAN PEDRO R AT CHARLESTON AZ	313733	1101026	AZ	003	STREAM	1963			3	6	7		GS
60	E	54411	09471800	SAN PEDRO R NR BENSON ARIZ	320735	1101722	AZ	003	STREAM	1966			3	6	7		GS
60	E	72931	G 10	SAN PEDRO R AB GILA R	3255	11046	AZ	021	STREAM	1971			8				B03
60	E	63109	09473500	SAN PEDRO R AT WINKELMAN AZ	325838	1104611	AZ	021	STREAM	1966			3	6	7		GS

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD BEGAN	PERIOD OF RECORD DISCONTINUED	INTERRUPTED RECORD	SEDIMENT CONCENTRATION (SUSPENDED)	SEDIMENT PARTICLE SIZE (SUSPENDED)	SEDIMENT PARTICLE SIZE (BED MATERIAL)	SEDIMENT OTHER	AGENCY REPORTING
60	P	54413	09474000	GILA R AT KELVIN AZ	330610	1105833	AZ	021	STREAM	1950			3	6	7		GS
60	P	72933	G 2	GILA R NR DIAMOND A RANCH	3307	11100	AZ	021	STREAM	1971			8				B03
60	P	70789	S 60	ARCADIA WASH FLUME AT TUCSON	321437	1105305	AZ	019	STREAM	1969			1				B01
60	I	70790	S 50	HIGH SCHOOL WASH FLUME AT TUCSON	321328	1105650	AZ	019	STREAM	1969			1				B01
60	I	70791	S 70	RAILROAD WASH FLUME AT TUCSON	321248	1105645	AZ	019	STREAM	1969			1				B01
63	N	54415	09502000	SALT R BL STEWART MOUNTAIN DAM AZ	333310	1113433	AZ	013	STREAM	1950			5				GS
60	M	68022	09508300	WET BOTTOM C NR CHILDS AZ	340939	1114132	AZ	007	STREAM	1967			5	7	7		GS
60	M	54416	09510000	VERDE R BL BARTLETT DAM AZ	334903	1113808	AZ	013	STREAM	1950			5				GS
60	M	54417	09510070	WF SYCAMORE C AB MCF CAN N SUNFL AR	335738	1112912	AZ	013	STREAM	1965			5	9			GS
60	M	54418	09510100	EF SYCAMORE C NR SUNFLOWER AZ	335658	1112739	AZ	013	STREAM	1965			5				GS
59	S	67562		GILA R AT YUMA GAGE	324400	1143800	AZ	027	STREAM	1958			4	4	5		BR
59	Q	68782		COLORADO R AT YUMA ARIZONA	324345	1143715	AZ	027	STREAM	1958			5	5	5		BR
59	S	55853		COLORADO R AT N INTERNATIONAL BDRY	3243	11443	AZ	027	STREAM	1961			6				IBW

4 OF 4

PB

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4.5
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MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCON-TINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN:		15															
TOTAL:			53														

GREAT BASIN REGION 16

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
65	C	85500	10126000	BEAR R NR CORINNE UT	413435	1120600	UT	003	STREAM	1974			4	4			GS
65	F	50952	10167500	L COTTONWOOD C NR SALT LAKE CITY UT	403415	1114430	UT	035	STREAM	1963	1968		5				GS
65	F	50953	10168500	BIG COTTONWOOD C NR SALT LAKE CITY	403734	1114428	UT	035	STREAM	1963	1968		5				GS
65	F	86452	VSS-00.01	SB VITRO WASTE D AB CONFL WITH VIT	404212	1115530	UT	035	CANAL	1967					5		V50
65	F	50955	10170000	MILL CREEK NR SALT LAKE CITY	404120	1114655	UT	035	STREAM	1963	1968		5				GS
65	F	85501	10171000	JORDAN R AT SALT LAKE CITY UT	404339	1115526	UT	035	STREAM	1963			4	4			GS
65	F	50959	10171600	PARLEYS C AT SUICIDE ROCK NR SLC	404235	1114748	UT	035	STREAM	1963	1968		5				GS
65	F	50961	10172000	EMIGRATION C NR SALT LAKE CITY	404500	1114845	UT	035	STREAM	1963	1968		5				GS
65	F	50962	10172200	RED BUTTE C AT FORT DOUGLAS NR SALT	404648	1114819	UT	035	STREAM	1964			5	5	5		GS
65	F	50963	10172400	CITY C AB WASATCH DRIVE NR SLC	404733	1115235	UT	035	STREAM	1963	1968		5				GS
66	D	50928	10204200	MILL C NR GLENWOOD UT	384501	1115835	UT	041	STREAM	1963	1974		5	5			GS
66	D	65477	10-2051	SHEEP C NR SALINA UT	3847	11141	UT	041	STREAM	1957			8				FS
66	D	65478	10 2052	WF SHEEP C NR SALINA UT	3847	11141	UT	041	STREAM	1957	1972		8				FS
66	D	65479		SHERRILL DRIVE UT	385826	0770223	UT	041	STREAM	1957	1972		8				FS
66	F	85209	8 3 01	MERCHANT C UPPER BEAVER	381927	1122336	UT	001	STREAM	1971			5				FS
66	F	85363	8 3 02	MERCHANT C LOWER BEAVER	381849	1122404	UT	001	STREAM	1971			5				FS
66	F	85211	8 3 04	MF THREE C UPPER BEAVER	381906	1122111	UT	001	STREAM	1971			5				FS
66	F	85364	8 3 05	MF THREE C LOWER BEAVER	381735	1122430	UT	001	STREAM	1971			5				FS
66	F	85213	8 3 03	NF THREE C LOWER BEAVER	381800	1122442	UT	001	STREAM	1971			5				FS
66	I	56325	10244550	STEPTOE C NR ELY NV	391205	1144115	NV	033	STREAM	1966			5	7			GS
68	B	56326	10249300	S TWIN R NR ROUND MOUNTAIN NV	385300	1171435	NV	023	STREAM	1966			5	7			GS
68	I	72886	10336593	GRASS LK C NR MEYERS CA	384807	1200054	CA	017	STREAM	1971			1	6	6		GS
68	I	72887	10336610	UPPER TRUCKEE R AT SOUTH LAKE TAHOE	385522	1195923	CA	017	STREAM	1971			1	6		6	GS
68	I	72888	10336630	EAGLE C NR CAMP RICHARDSON CA	385705	1200638	CA	017	STREAM	1971			1	6	6		GS
68	I	72889	10336640	MEEKS C AT MEEKS BAY CA	390209	1200729	CA	017	STREAM	1971			1	6	6		GS
68	I	72890	10336650	QUAIL LK C AT HOMEWOOD CA	390434	1200906	CA	061	STREAM	1971			1	6	6		GS
68	I	72891	10336655	MADDEN C NR HOMEWOOD CA	390514	1201024	CA	061	STREAM	1971			1	6	6		GS
68	I	72892	10336658	MADDEN C AT HOMEWOOD, CA	390527	1200942	CA	061	STREAM	1971			1	6	6		GS
68	I	76281	10336670	WARD C NR TAHOE PINES CA	390809	1201311	CA	061	STREAM	1972			1	1	1		GS
68	I	76282	10336672	WARD C TRIB NR TAHOE PINES CA	390829	1201306	CA	061	STREAM	1972			2	2			GS
68	I	76283	10336676	WARD C AT HIGHWAY 89 NR TAHOE PINES	390756	1200940	CA	061	STREAM	1972			1	1	1		GS
68	W	76287	10336684	DOLLAR C NR TAHOE CITY CA	391155	1200550	CA	061	STREAM	1972			1	6	6		GS
68	I	66905	10336698	THIRD C NR CRYSTAL BAY NV	391426	1195644	NV	031	STREAM	1969				2	2	2	GS
68	I	66904	10336700	INCLINE C NR CRYSTAL BAY NV	391425	1195640	NV	031	STREAM	1969				2	2	2	GS
68	I	85366	10336730	GLENBROOK C AT GLENBROOK NV	390515	1195620	NV	005	STREAM	1971				2	2	2	GS
68	I	72893	10336790	TROUT C AT S LAKE TAHOE CA	385555	1195840	CA	017	STREAM	1971			1	6	6		GS
68	J	85367	10339250	MARTIS C AT HWY 267 NR TRUCKEE	391809	1200712	CA	061	STREAM	1972			8				GS
68	J	66186	10343500	SAGEHEN C NR TRUCKEE CA	392554	1201407	CA	057	STREAM	1967			5	5			GS
68	J	51093	10347800	PEAVINE C NR RENO NV	393235	1195155	NV	031	STREAM	1963				2	2	2	GS
68	L	51094	10351700	TRUCKEE R AT NIXON NV	394640	1192010	NV	031	STREAM	1964			2	2			GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCONTINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN:		16															
TOTAL:			40														

PACIFIC NORTHWEST REGION 17

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD BEGAN	PERIOD OF RECORD DISCONTINUED	INTERRUPTED RECORD	SEDIMENT CONCENTRATION (SUSPENDED)	SEDIMENT PARTICLE SIZE (SUSPENDED)	SEDIMENT PARTICLE SIZE (BED MATERIAL)	SEDIMENT OTHER	AGENCY REPORTING
75	B	51903	12020000	CHEHALIS R NR DOTY WASH	463805	1231520	WA	041	STREAM	1957	1970		*				GS
75	B	51904	12025000	NEWAUKUM R NR CHEHALIS WA	463713	1225638	WA	041	STREAM	1960	1970		2				GS
75	B	67601	12026400	SKOOKUMCHUCK R NR BUCODA WA	464620	1225523	WA	067	STREAM	1968			2				GS
75	B	67602	12026550	HANAFORD CR NR BUCODA WN	464547	1225345	WA	041	STREAM	1968	1971		4				GS
75	B	51906	12031000	CHEHALIS R AT PORTER WA	465617	1231845	WA	027	STREAM	1959	1971		2				GS
75	A	51912	12039300	NF QUINAULT R NR AMANDA PK WA	473546	1233723	WA	031	STREAM	1959			5				GS
75	I	51917	12045500	ELWHA R AT MC BR NR PORT ANGELES W	480355	1233435	WA	009	STREAM	1959	1970		*				GS
75	I	69562		BIG BEEF C FISH RESEARCH STATION	4739	12247	WA	035	STREAM	1966			*				X03
75	I	57275		FERN LAKE	472412	1224700	WA	035	LAKE	1958			8				X03
75	I	62827	64613 - 0508	UPPER GREEN RIVER II	4712	12122	WA	033	STREAM	1966			3	3			FS
75	I	70433	0311	GREEN R AT TUKWILA WASH	472755	1221450	WA	033	STREAM	1970			*	*		*	X12
75	I	77214	0025	LANDER ST REGULATOR	473448	1222029	WA	033	DRAIN	1972	1973		5			5	X12
75	I	77215	0023	CONNECTICUT ST REGULATOR	473536	1222007	WA	033	DRAIN	1972	1973		5			5	X12
75	I	57278	MP	LK WASHINGTON	4738	12216	WA	033	LAKE	1949		*				4	X05
75	D	51954	12148500	TOLT R NR CARNATION WASH	473815	1215455	WA	033	STREAM	1960	1970		*				GS
75	D	70206	12149000	SNOQUALMIE R NR CARNATION WA	473958	1215527	WA	033	STREAM	1966			1				GS
75	I	51958	12167700	STILLAGUAMISH R NR SILVANA WASH	481150	1221230	WA	061	STREAM	1959			*				GS
76	D	63061	12301500	KOOTENAI R NR REXFORD, MT.	485228	1151337	MT	053	STREAM	1967	1972		3	3			GS
76	D	63060	12301933	KOOTENAI R BL LIBBY DAM, NR LIBBY,	482403	1151911	MT	053	STREAM	1967			3				GS
76	C	63058	12301990	FISHER R, AB WOLF C NR LIBBY MT	481300	1151620	MT	053	STREAM	1967	1970		5				GS
76	C	63065	12301999	WOLF C NR LIBBY MT	481400	1151625	MT	053	STREAM	1967	1970		*				GS
75	C	63059	12302055	FISHER R NR LIBBY MT	482120	1151850	MT	053	STREAM	1967			3				GS
76	D	52080	12318500	KOOTENAI R NR COPELAND ID	485443	1162459	ID	021	STREAM	1966			1	6	6		GS
76	E	77498		S F FLUME LOWER WILLOW C NR HALL	4633	11319	MT	039	STREAM	1972			8				SCS
76	E	77499		N F FLUME LOWER WILLOW C NR HALL	4634	11320	MT	039	STREAM	1972			8				SCS
76	E	77500		OUTFLOW FLUME L LOWER WILLOW C	4634	11319	MT	039	STREAM	1972			8				SCS
75	F	67006	12334600	BLACKFOOT R NR LINCOLN, MT.	470237	1122414	MT	049	STREAM	1968	1970		5				GS
76	F	68864	12334650	BLACKFOOT R BL ALICE C NR LINCOLN M	465921	1123040	MT	049	STREAM	1970			5				GS
76	F	65029		SEELEY LAKE	4720	11330	MT	063	LAKE	1967	1969		5				FS
76	M	65026		RATTLESNAKE CREEK	4658	11353	MT	063	STREAM	1968	1969		5				FS
76	H	86843	BI0001	WEST FORK BITTERROOT	453340	1141915	MT	081	STREAM	1973			2				FS
76	H	86844	BI0002	WOODS CREEK	453544	1141930	MT	081	STREAM	1973			2				GS
76	H	86845	BI0003	DEER CREEK	453535	1141936	MT	081	STREAM	1973			2				FS
76	H	86846	BI0004	HUGHES CREEK	453648	1141746	MT	081	STREAM	1973			2				FS
76	H	86847	BI0005	OVERWHICH CREEK	453946	1140905	MT	081	STREAM	1973			2				FS
76	H	86848	BI0006	OVERWHICH CREEK	454018	1141807	MT	081	STREAM	1973			2				GS
76	H	86849	BI0007	WEST FORK BITTERROOT	454038	1141824	MT	081	STREAM	1973			2				GS
76	H	86850	BI0008	BLUE JOINT CREEK	454150	1142302	MT	081	STREAM	1973			2				GS
76	H	86851	BI0009	BLUE JOINT CREEK	454148	1141901	MT	081	STREAM	1973			2				GS
76	H	86852	BI0010	SLATE CREEK	454149	1140704	MT	081	STREAM	1973			2				FS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
76	H	86853	BI0011	WEST FORK BITTERROOT	454415	1141651	MT	081	STREAM	1973			2				FS
76	H	86854	BI0012	WEST FORK BITTERROOT	454743	1141611	MT	081	STREAM	1973			2				FS
76	H	86855	BI0013	NEZPERCE FORK	454500	1142353	MT	081	STREAM	1973			2				FS
76	H	86856	BI0014	NEZPERCE FORK	454756	1141609	MT	081	STREAM	1973			2				FS
76	H	86857	BI0015	BOULDER CREEK	454955	1141536	MT	081	STREAM	1973			2				FS
76	H	86858	BI0016	PIQUETT CREEK	454830	1141008	MT	081	STREAM	1973			2				FS
76	H	86859	BI0017	PIQUETT CREEK	455156	1141154	MT	081	STREAM	1973			2				FS
76	H	86860	BI0018	WEST FORK BITTERROOT RIVER	455436	1141000	MT	081	STREAM	1973			2				FS
76	H	86861	BI0026	RYE CREEK	455744	1140015	MT	081	STREAM	1973			2				FS
76	H	86862	BI0027	NORTH FORK RYE CREEK	455947	1140147	MT	081	STREAM	1973			2				FS
76	H	86863	BI0028	CHAFFIN CREEK	455713	1141145	MT	081	STREAM	1973			2				FS
76	H	86864	BI0029	LOST HORSE CREEK	460550	1141600	MT	081	STREAM	1973			2				FS
76	H	86865	BI0030	SLEEPING CHILD C	460631	1140010	MT	081	STREAM	1973			2				FS
76	H	86866	BI0031	SLEEPING CHILD C	460754	1140325	MT	081	STREAM	1973			2				FS
76	H	86867	BI0032	LITTLE SLEEPING CHILD CREEK	463501	1140547	MT	081	STREAM	1973			2				FS
76	H	86868	BI0033	SOUTH FORK SKALKAHO	461000	1135408	MT	081	STREAM	1973			2				FS
76	H	86869	BI0034	DALY CREEK	461014	1135423	MT	081	STREAM	1973			2				FS
76	H	86870	BI0035	SKAIKAHO CREEK	460944	1135714	MT	081	STREAM	1973			2				FS
76	H	86871	BI0036	BLODGETT CREEK	461606	1141430	MT	081	STREAM	1973			2				FS
76	H	86872	BI0037	WILLOW CREEK	461655	1135445	MT	081	STREAM	1973			2				FS
76	H	86873	BI0038	BURNT FORK CREEK	462340	1135400	MT	081	STREAM	1973			2				FS
76	H	86874	BI0039	GOLD CREEK	462420	1135425	MT	081	STREAM	1973			2				FS
76	H	86875	BI0040	KOOTENAI CREEK	463215	1140930	MT	081	STREAM	1973			2				FS
76	H	86876	BI0041	AMBROSE CREEK	463506	1133000	MT	081	STREAM	1973			2				FS
76	H	86877	BI0042	EIGHTMILE CREEK	463910	1135320	MT	081	STREAM	1973			2				FS
76	M	63697		BIG CREEK	4720	11535	MT	061	STREAM	1968			4	4			FS
76	L	83590	12355000	N F FLATHEAD R AT FLATHEAD, BRITISH	490006	1142830	CN		STREAM	1949	1970		7				GS
76	L	76484	12355500	NF FLATHEAD R NR COLUMBIA FALLS MT	482944	1140736	MT	029	STREAM	1970	1970		*				GS
76	I	76485	12358500	MF FLATHEAD R NR W GLACIER MT	482943	1140033	MT	029	STREAM	1970	1970		*				GS
76	L	51138	12363000	FLATHEAD R AT COLUMBIA FALLS MT	482143	1141102	MT	029	STREAM	1949	1970	*	*				GS
76	L	80822	12363500	FLATHEAD R NR KALISPELL, MT.	481238	1141523	MT	029	STREAM	1949	1969		*				GS
76	Q	82719	12401500	KETTLE R NR FERRY WA	485853	1184555	WA	019	STREAM	1969	1971		6				GS
76	Q	82673	12404500	KETTLE R NR LAURIER WA	485904	1181255	WA	019	STREAM	1969	1971		6				GS
76	R	82674	12407500	SHEEP C AT SPRINGDALE WA	480328	1174504	WA	065	STREAM	1969	1971		6				GS
76	R	82675	12407520	DEER C NR VALLEY WA	480706	1174752	WA	065	STREAM	1969	1971		5				GS
76	R	82716	12407700	CHEWELAH C AT CHEWELAH WA	481701	1174250	WA	065	STREAM	1969	1971		5				GS
76	R	82717	12408300	L PEND OREILLE R NR COLVILLE WA	482758	1174453	WA	065	STREAM	1969	1971		6				GS
76	R	82718	12408420	HALLER C NR ARDEN WA	482802	1175424	WA	065	STREAM	1969	1970		5				GS
76	R	82676	12408500	MILL C NR COLVILLE WA	483444	1175156	WA	065	STREAM	1969	1971		5				GS
76	U	63068	12413300	S F COEUR D ALENE R AT SMELTERVILLE	473255	1161025	ID	079	STREAM	1967			6				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
76	W	63069	12416000	HAYDEN C BL N F NR HAYDEN LK ID	474922	1163910	ID	055	STREAM	1966			5				GS
76	W	65028		HAYDEN CREEK	474922	1163910	IN	055	STREAM	1967	1969		8	8			FS
76	W	51977	12433000	SPOKANE R AT LONG LK WA	475012	1175025	WA	043	STREAM	1959			5				GS
76	X	76375	12433890	SANPOIL R AB THIRTEEN MI C NR REPUB	482838	1184341	WA	019	STREAM	1972	1973		6				GS
76	X	76376	12434110	WF SANPOIL R NR REPUBLIC WA	482733	1184457	WA	019	STREAM	1972	1973		6				GS
76	X	64176	12434500	SANPOIL R NR KELLER WASH	480630	1184150	WA	019	STREAM	1968	1973		6				GS
75	N	76377	12437505	NESPELEM R BL MILL PD NR NESPELEM W	460955	1185846	WA	047	STREAM	1972	1973		5				GS
75	K	82677	12439300	TONASKET C AT OROVILLE WA	485635	1192445	WA	047	STREAM	1969	1971		5				GS
75	K	51979	12439500	OKANOGAN R AT OROVILLE WA	485551	1192509	WA	047	STREAM	1959	1971		5				GS
75	J	82678	12442000	TOATS COULEE C NR LOOMIS WA	485001	1194132	WA	047	STREAM	1969	1971		5				GS
75	J	51980	12442500	SIMILKAMEEN R NR NIGHTHAWK WA	485910	1193700	WA	047	STREAM	1949	1971		5				GS
75	K	82679	12444490	BONAPARTE C NR WAUCONDA WA	483926	1191202	WA	047	STREAM	1970	1971		5				GS
75	K	82680	12445000	OKANOGAN R NR TONASKET WA	483757	1192738	WA	047	STREAM	1969	1971		5				GS
75	K	76378	12445900	OMAK C NR OMAK WA	482202	1192638	WA	047	STREAM	1972	1973		5				GS
75	K	51981	12447200	CKANOGAN R AT MALOTT WA	481653	1194212	WA	047	STREAM	1953	1971	*	5				GS
75	L	82672	12447390	ANDREWS C NR MAZAMA WA	484928	1200850	WA	047	STREAM	1972			5				GS
75	L	82681	12449600	BEAVER C BL SF NR TWISP WA	482544	1200112	WA	047	STREAM	1969	1971		5				GS
75	L	51982	12449950	METHOW R NR PATEROS WA	480439	1195902	WA	047	STREAM	1959	1971		5				GS
75	M	82682	12451000	STEHEKIN R AT STEHEKIN WA	481930	1204120	WA	007	STREAM	1969	1971		5				GS
75	T	64177	12452800	FNTIAT R NR ARDENVOIR WA	474831	1202447	WA	007	STREAM	1968	1971		5				GS
75	O	82683	12454000	WHITE R NR PLAIN WA	475227	1205209	WA	007	STREAM	1969	1971		5				GS
75	O	82684	12457000	WENATCHEE R AT PLAIN WA	474538	1203942	WA	007	STREAM	1969	1971		5				GS
75	O	82671	12458000	ICICLE C AB SNOW C NR LEAVENWORTH W	473228	1204308	WA	007	STREAM	1969	1971		5				GS
75	O	82669	12459000	WENATCHEE R AT PESHASTIN WA	473500	1203646	WA	007	STREAM	1969	1971		5				GS
75	O	82685	12461400	MISSION C AB SAND C NR CASHMERE WA	472548	1203020	WA	007	STREAM	1969	1971		5				GS
75	O	82686	12462500	WENATCHEE R AT MONITOR WA	472958	1202524	WA	007	STREAM	1969	1971		5				GS
75	Q	82687	12464800	COAL C AT MOHLER WA	472423	1181854	WA	043	STREAM	1969	1971		5				GS
75	Q	82688	12465000	CRAB C AT IRBY WA	472138	1185056	WA	043	STREAM	1969	1971		5				GS
75	Q	82690	12465400	WILSON C BL CORBETT DRAW NR ALMIRA	473947	1185546	WA	043	STREAM	1969	1971		5				GS
75	Q	82691	12465500	WILSON C AT WILSON C WA	472550	1190610	WA	025	STREAM	1970	1971		6				GS
75	Q	82692	12467000	CRAB C NR MOSES LK WA	471122	1191553	WA	025	STREAM	1969	1971		5				GS
75	Q	82693	12470500	ROCKY FORD C NR EPHRATA WA	471836	1192639	WA	025	STREAM	1969	1971		6				GS
75	Q	77719	82	EL 25 A W W AT PUMPING PLANT	471044	1191317	WA	025	OTHER	1973			8				BR
75	Q	82694	12471270	FARRIER COULEE NR SCHRAG WA	470745	1185115	WA	001	STREAM	1970	1970		7				GS
75	Q	77720	79	LOWER CRAB C AT MC MANNAN ROAD	465345	1191810	WA	001	STREAM	1972			8				BR
75	Q	77721	78	DPE 215 AT ROUTE 26	464851	1192115	WA	001	DRAIN	1972			8				BR
75	Q	77722	81	CCL WASTEWAY AT UNIT 88 BLOCK 88	465025	1192509	WA	025	OTHER	1972			8				BR
75	Q	77723	80	DCC1 AT RED ROCK COULEE ROAD	465234	1193550	WA	025	DRAIN	1972			8				BR
75	Q	51987	12472600	CRAB C NR BEVERLY WA	464945	1194945	WA	025	STREAM	1968	1971		5				GS
75	S	82695	12474500	YAKIMA R NR MARTIN WA	471917	1212006	WA	037	STREAM	1969	1971		7				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
75	S	82696	12476000	KACHESS R NR EASTON WA	471541	1211208	WA	037	STREAM	1969	1971		7				GS
75	S	82697	12479000	CLE ELUM R NR ROSLYN WA	471441	1210400	WA	037	STREAM	1969	1971		7				GS
75	S	51988	12479500	YAKIMA R AT CLE ELUM WA	471133	1205648	WA	037	STREAM	1910	1971		5				GS
75	S	82698	12480000	TEANAWAY R BL FORKS NR CLE ELUM WA	471448	1205136	WA	037	STREAM	1969	1971		5				GS
75	S	82699	12483800	NANEUM C NR ELLENSBURG WA	470737	1202847	WA	037	STREAM	1969	1971		5				GS
75	S	51990	12484000	WILSON C AT THRALL WA	465504	1203025	WA	037	STREAM	1965			5				GS
75	S	73111	22	CHERRY C SE1/4 SEC 29 17N 19E	465615	1202900	WA	037	STREAM	1971			8				BR
75	S	73112	23	COLEMAN C NW 1/4 SEC 20 17N 19E	465710	1202920	WA	037	STREAM	1971			8				BR
75	S	73113	24	ELLENSBRG TN CA NE1/4 SEC6 17N19E	465930	1203030	WA	037	CANAL	1971			8				BR
75	S	73114	25	CASCADE CA NE1/4 SEC31 18N 19E	470040	1203000	WA	037	CANAL	1971			8				BR
75	S	73115	26	KITTITAS CA SE1/4 SEC6 18N 19E	470440	1203000	WA	037	CANAL	1971			8				BR
75	S	82703	12484500	YAKIMA R AT UMTANUM WA	465146	1202844	WA	037	STREAM	1969	1971		5				GS
75	R	82704	12487400	DEEP C NR GOOSE PRAIRIE WA	464730	1211930	WA	077	STREAM	1969	1969		7				GS
75	R	82705	12488000	BUMPING R NR NILE WA	465222	1211729	WA	077	STREAM	1969	1971		7				GS
75	R	67604	12488500	AMERICAN R NR NILE WA	465839	1211005	WA	077	STREAM	1962	1971		5				GS
75	A	82706	12491700	HAUSE C NR RIMROCK WA	464033	1210449	WA	077	STREAM	1969	1969		7				GS
75	R	82700	12492500	TIETON R AT HEADWORKS OF CA NR NACH	464016	1210010	WA	077	STREAM	1969	1971		7				GS
75	R	73116	27	TIETON CA SW1/4 SEC11 14N 16E	464245	1204750	WA	077	CANAL	1971			8				BR
75	R	82707	12494000	NACHES R BL TIETON R NR NACHES WA	464444	1204605	WA	077	STREAM	1969	1971		5				GS
75	R	73117	28	COWICHE C SE1/4 SEC9 13N 18E	463730	1203440	WA	077	STREAM	1971			8				BR
75	R	73118	29	COTTNWOOD CANYN D SE1/4SEC28 13N18	463450	1203440	WA	077	STREAM	1971			8				BR
75	S	82708	12500450	YAKIMA R AB AHTANUM C AT UNION GAP	463204	1202758	WA	077	STREAM	1969	1971		5				GS
75	S	82709	12500500	NF AHTANUM C NR TAMPICO WA	463340	1205510	WA	077	STREAM	1969	1971		5				GS
75	S	82670	12501000	SF AHTANUM C AT CONRAD RANCH NR TAM	463033	1205436	WA	077	STREAM	1969	1971		5				GS
75	S	82710	12502500	AHTANUM C AT UNION GAP WASH	463208	1202820	WA	077	STREAM	1969	1971		5				GS
75	S	51995	12505000	YAKIMA R NR PARKER WA	462947	1202624	WA	077	STREAM	1959	1971		7				GS
75	S	69709	SITE NO 6	ROZA CA AT MILE 44.2 NR GRANGER WA	4625	12009	WA	077	CANAL	1968			5	5			BR
75	S	69719	SITE NO 16	NEW RESER CA - HDWKS NR WAPATO WA	463126	1202834	WA	077	CANAL	1968			5	5			BR
75	S	69710	SITE NO 7	SUNNYSIDE CA MI 24.7 NR GRANGER WA	4613	12009	WA	077	CANAL	1968			5	5			BR
75	S	69708	SITE NO 5	DRAIN 26.6 NR GRANGER WA	4623	12008	WA	077	DRAIN	1968			5	5			BR
75	S	69707	SITE NO 4	DRAIN 27.2 NR GRANGER WA	4623	12008	WA	077	DRAIN	1968			5	5			BR
75	S	69705	SITE NO 2	DID 2 NR GRANGER WA	4621	12008	WA	077	DRAIN	1968			5	5			BR
75	S	65706	SITE NO 3	DID 2 NR GRANGER WA	4621	12008	WA	077	DRAIN	1968			5	5			BR
75	S	69718	SITE NO 15	NEW RESER CA-DROP 3-NR WAPATO WA	4625	12034	WA	077	CANAL	1968			5	5			BR
75	S	69717	SITE NO 14	MARION DR AT LAT C NR TOPPENISH WA	4621	12031	WA	077	DRAIN	1968	1971		5	5			BR
75	S	69716	SITE NO 13	MARION DR AT ROB RD NR TOPPENISH W	4619	12021	WA	077	DRAIN	1968	1971		5	5			BR
75	S	69715	SITE NO 12	MARION DR AT HWY 22 NR TOPPENISH W	4619	12014	WA	007	DRAIN	1968			5	5			BR
75	S	65704	SITE NO 1	DID 25 NR GRANGER WA	4620	12011	WA	077	DRAIN	1968			5	5			BR
75	S	73119	19	SATUS 2 CA NW 1/4 SEC 17 9N 21E	461610	1201330	WA	077	CANAL	1971			8				BR
75	S	73120	20	NEQUIST D NW 1/4 SEC 25 9N 21E	461430	1200820	WA	077	DRAIN	1971			8				BR

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NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
75	S	73121	21	SATUS D 302 NW 1/4 SEC 34 9N 22E	461330	1200340	WA	077	DRAIN	1971			8				BR
75	S	69720	SITE NO 17	CHANDLER CA MI 0.6 NR PROSSER WA	4613	11946	WA	005	CANAL	1970			5	5			BR
75	S	69721	SITE 18	CHANDLER CA MI 2.8 NR PROSSER WA	4613	11944	WA	005	CANAL	1970			5	5			BR
75	S	69714	SITE NO 11	KENNEWICK CA HDWKS NR CHANDLER WA	4616	11935	WA	005	CANAL	1968			5	5			BR
75	S	51996	12510500	YAKIMA R AT KIONA WA	461513	1192837	WA	005	STREAM	1952			7				GS
75	T	82702	12512500	PROVIDENCE COULEE AT CUNNINGHAM WA	464920	1184836	WA	001	STREAM	1969	1970		6				GS
75	T	82701	12513000	ESQUATZEL CL AT CONNELL WA	463931	1185203	WA	021	STREAM	1969	1971		7				GS
75	T	82668	12513500	ESQUATZEL CL AT ELTOPIA WA	462745	1190040	WA	021	STREAM	1970	1971		7				GS
75	U	69713	SITE NO 10	COYOTE DR - AMON WW NR KENNEWICK W	4614	11906	WA	005	DRAIN	1968	1971		5	5			BR
75	U	69712	SITE NO 9A	HIGHLANDS DRAIN NR KENNEWICK WA	4610	11904	WA	005	DRAIN	1968			5	5			BR
75	U	69711	SITE NO 8	HOVER WASTEWAY NR KENNEWICK WA	4606	11858	WA	005	OTHER	1968	1971		5	5			BR
79	A	51069	13018300	CACHE C NR JACKSON WY	432708	1104212	WY	039	STREAM	1965			5				GS
79	J	77712	R 4 16 1 3	HOBACK R AB KOZY C G WY	4316	1103030	WY	039	STREAM	1971	1972					4	FS
79	J	77713	R 4 16 1 4	HOBACK R BL KOZY C G WY	4316	1103030	WY	039	STREAM	1971	1972					4	FS
79	J	77714	R 4 16 1 1	GRANITE C AB POOL WY	432200	1102700	WY	039	STREAM	1971	1972					4	FS
79	J	77715	R 4 16 1 2	GRANITE C BL POOL WY	4322	11027	WY	039	STREAM	1971	1972					4	FS
79	J	77716	R 4 16 1 5	HOBACK R AB HOBACK C G WY	4316	11035	WY	039	STREAM	1971	1972					4	FS
79	J	77717	R 4 16 1 6	HOBACK R BL HOBACK C G WY	4316	1103530	WY	039	STREAM	1971	1972					4	FS
79	A	51070	13022500	SNAKE R AB RE NR ALPINE WY	431147	1105318	WY	023	STREAM	1965			5	7			GS
79	J	55746		SNAKE R NR HEISE ID	433645	1113905	ID	019	STREAM	1964	1972		8				BR
79	D	55745		HENRYS FORK AT ST ANTHONY ID	435800	1114020	ID	043	STREAM	1960	1973		8				BR
79	D	55747		NF SQUIRREL C NR SQUIRREL ID	440300	1110110	WY	039	STREAM	1964	1967		8				BR
79	C	55744		TETON R NR DRIGGS ID	434654	1111230	ID	081	STREAM	1963	1972		8				BR
79	C	86644	TET 001	BITCH CR 1/4 MI US HWY 32 X-ING	435620	1111025	ID	081	STREAM	1971			5				BR
79	C	86645	TET002	SF TETON R SH 33 X-ING	434930	1111400	ID	081	STREAM	1971			5				BR
79	C	86646	TET003	CANYON C 1000 FT US SH 33 X-ING	435045	1112645	ID	065	STREAM	1971			5				BR
79	C	86647	TET004	TETON R 1 MI BELOW DAMSITE	435400	1113330	ID	043	STREAM	1971			5				BR
79	C	52057	13055000	TETON R NR ST ANTHONY ID	435538	1113655	ID	043	STREAM	1960			6				GS
79	C	55743		TETON R NR ST ANTHONY ID	435540	1113655	ID	043	STREAM	1960	1972		8				BR
79	F	63072	13058000	WILLOW C NR RIRIE ID	433535	1114630	ID	019	STREAM	1967		*	6				GS
79	J	55742		SNAKE R NR SHELLEY ID	432450	1120805	ID	011	STREAM	1964	1972		8				BR
79	J	55741		SNAKE R NR BLACKFOOT ID	430731	1123106	ID	011	STREAM	1964	1972		8				BR
79	H	55740		PORTNEUF R AT POCATELLO ID	425140	1122725	ID	005	STREAM	1965	1972		8				BR
79	J	55739		SNAKE R AT NEELEY ID	424620	1125245	ID	077	STREAM	1964	1968		8				BR
79	U	81641	13089402	F MAIN DRAIN AT CAMP HOLLEY LK NR R	424014	1134111	ID	067	DRAIN	1972	1974		6				GS
79	U	81642	424418114382801	DRAIN WELL 8S-15E 13ABA NR WENDELL	424418	1143828	ID	047	DRAIN	1972			7				GS
78	A	52071	13169500	BIG JACKS C NR BRUNEAU ID	424706	1155900	ID	073	STREAM	1967			5	7			GS
78	T	55737		SNAKE R NR MURPHY ID	431730	1162512	ID	001	STREAM	1960	1972		8				BR
78	E	55735		JORDAN C NR JORDAN VALLEY OREG	425227	1165712	ID	073	STREAM	1966	1969		8				BR
78	E	82209	13178000	JORDAN C AB LONE TREE C NR JV OR	425227	1165712	ID	073	STREAM	1951	1971		*				GS

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78	L	86648	BOI002	TEN MILE C AT CLOVERDALE RD	433130	1162000	ID	001	DRAIN	1971			5				BR
78	L	86649	BOI004	TEN MILE C RIDENBAUGH CROSSING	433345	1162215	ID	001	DRAIN	1971			5				BR
78	L	86650	BOI005	TEN MILE C AT CHERRY LANE	433710	1162705	ID	001	DRAIN	1971			5				BR
78	L	86651	BOI006	TEN MILE C AT CAN ADA RD	433730	1163040	ID	027	DRAIN	1971			5				BR
78	L	86652	BOI007	TEN MILE C NR MOUTH	434020	1163510	ID	027	DRAIN	1971			5				BR
78	L	86653	BOI018	INDIAN C CENTER S26 T3N R2W	433420	1163230	ID	027	DRAIN	1971			5				BR
78	L	86654	BOI017	INDIAN C AT NAMPA BLVD	433540	1163440	ID	027	DRAIN	1971			5				BR
78	L	86655	BOI016	INDIAN C AT KARCHEN RD NAMPA	433625	1163530	ID	027	DRAIN	1971			5				BR
78	L	86656	BOI015	INDIAN C AT 21 AVE COLDWELL	433930	1164005	ID	027	DRAIN	1971			5				BR
78	L	86657	BOI014	INDIAN C AT MOUTH	434030	1164210	ID	027	DRAIN	1971			5				BR
78	P	65482		GOLD FORK NR ROSEBERRY ID	444118	1160002	ID	085	STREAM	1965	1970	*	8				BR
78	R	86658	EMM001	PAYETTE R NR EMMETT	435615	1162645	ID	045	STREAM	1968			5				BR
78	R	86659	EMM002	COMBINE DR AT TUNNEL 7 NW	435245	1163710	ID	045	DRAIN	1969		*	5				BR
78	R	86660	EMM005	PAYETTE R NR FALK	435715	1164300	ID	075	STREAM	1969		*	5				BR
78	R	86661	EMM04A	SMALL DR 1/2 MI E GRAVEYARD W W	435700	1164340	ID	075	DRAIN	1969		*	5				BR
78	R	86662	EMM004	GRAVEYARD WN	435700	1164420	ID	075	OTHER	1968		*	5				BR
78	R	86663	EMM006	MAIN DR B LATERAL DR	435710	1164455	ID	075	DRAIN	1969		*	5				BR
78	R	55738		BIG WILLOW C NR EMMETT ID	440430	1162930	ID	075	STREAM	1966	1968		8				BR
78	R	86664	EMM007	CEMETARY DR NR NEW PLYMOUTH	435850	1164750	ID	075	DRAIN	1970		*	5				BR
78	S	84016	13251500	WEISER R AT TAMARACK ID	445649	1162253	ID	003	STREAM	1974			7				GS
78	S	84024	13253000	EF WEISER R NR STARKEY ID	445042	1162219	ID	003	STREAM	1974	1974		7				GS
78	S	84029	13253900	LOST C AB RES NR TAMARACK ID	445830	1162830	ID	003	STREAM	1974			7				GS
78	S	84014	13254800	W F WEISER R AB LOST C NR TAMARACK	445443	1162942	ID	003	STREAM	1974			7				GS
78	S	84028	13255050	W F WEISER R NR MOUTH NR FRUITVALE	444909	1162735	ID	003	STREAM	1974			7				GS
78	S	84012	13255200	MILL C AB DIV NR COUNCIL ID	444551	1162318	ID	003	STREAM	1974			7				GS
78	S	84013	13255280	N HORNET C AB DIV NR COUNCIL ID	445140	1163444	ID	003	STREAM	1974			7				GS
78	S	84030	13255500	HORNET C NR COUNCIL ID	4445	11629	ID	003	STREAM	1974			7				GS
78	S	84011	13255750	COTTONWOOD C AB DIV NR COUNCIL ID	444053	1162239	ID	003	STREAM	1974			7				GS
78	S	84021	13255800	COTTONWOOD C NR COUNCIL ID	444107	1162848	ID	087	STREAM	1974			7				GS
78	S	84010	13256800	M F WEISER R AB FALL C NR MESA ID	443843	1162223	ID	003	STREAM	1974			7				GS
78	S	84009	13257600	JOHNSON C AT MOUTH NR GOODRICH ID	444030	1163206	ID	003	STREAM	1974			7				GS
78	S	84008	13257700	DRY C AT GOODRICH ID	443915	1163319	ID	003	STREAM	1974			7				GS
78	S	84007	13257800	GOODRICH C AB DIV NR GOODRICH ID	442958	1163552	ID	003	STREAM	1974			7				GS
78	S	84017	13258500	WEISER R NR CAMBRIDGE ID	443447	1163820	ID	087	STREAM	1974			7				GS
78	S	84022	13259500	RUSH C AT CAMBRIDGE ID	443414	1164017	ID	087	STREAM	1974			7				GS
78	S	84005	13260090	W PINE C NR CAMBRIDGE ID	443516	1164525	ID	087	STREAM	1974			7				GS
78	S	84025	13260300	PINE C AT MOUTH AT CAMBRIDGE ID	443350	1164100	ID	087	STREAM	1974			7				GS
78	S	84006	13260500	L WEISER R AT RUBY RANCH NR INDIAN	442922	1162324	ID	003	STREAM	1974			7				GS
78	S	84027	13261600	L WEISER NR MOUTH NR CAMBRIDGE ID	443250	1163920	ID	087	STREAM	1974			7				GS
78	S	84002	13261670	DIXIE C NR CAMBRIDGE ID	442956	1163638	ID	087	STREAM	1974			7				GS

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NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
78	S	84004	13261880	KEITHLY C AB DIV NR MIDVALE ID	443203	1164947	ID	087	STREAM	1974			7				GS
78	S	84003	13263150	RANNER C NR MIDVALE ID	442600	1164328	ID	087	STREAM	1974			7				GS
78	S	84001	13263800	MILL C NR CRANE ID	442220	1163150	ID	087	STREAM	1974			7				GS
78	S	84000	13263930	TENNISON C NR MIDVALE ID	441810	1163058	ID	087	STREAM	1974			7				GS
78	S	84019	13263950	S F CRANE C NR CRANE ID	441940	1163300	ID	087	STREAM	1974			7				GS
78	S	84018	13265500	CRANE C AT MOUTH NR WEISER ID	441728	1164648	ID	087	STREAM	1974			7				GS
78	S	63070	13266000	WEISER R NR WEISER ID	441623	1164623	ID	087	STREAM	1967		*	5				GS
78	S	84020	13266550	COVE C NR WEISER ID	441337	1164803	ID	087	STREAM	1974			7				GS
78	S	83999	13266850	MANN C AB RE NR WEISER ID			ID	087	STREAM	1974			7				GS
78	S	84026	13268500	MONROE C AB SHEEP C NR WEISER ID	4420	11656	ID	087	STREAM	1974			7				GS
78	AA	83998	13269210	SCOTT C AB DIV NR WEISER ID	443040	1170037	ID	087	STREAM	1974			7				GS
78	AA	83997	13269228	HOG C AB GALLOWAY CA NR WEISER ID	441758	1170520	ID	087	STREAM	1974			7				GS
78	AA	73798		INDIAN C AB MANN CREEK	450538	1164030	ID	003	STREAM	1971	1972			6	6		FS
78	AA	73799		MANN CREEK	450538	1164030	ID	003	STREAM	1971	1972			6	6		GS
78	AA	73800		INDIAN C BL MANN CREEK	450538	1164030	ID	003	STREAM	1971	1972			6	6		FS
78	AA	73801		INDIAN CREEK BL CUPRUM	450503	1164212	ID	003	STREAM	1971	1972		6				FS
79	Z	82210	13292400	BEAVER C NR STANLEY ID	435520	1144850	ID	013	STREAM	1971	1972		*				GS
79	Z	82211	13295000	VALLEY C AT STANLEY ID	441321	1145549	ID	037	STREAM	1958	1972		*				GS
79	Z	82212	13296000	YANKEE F SALMON R NR CLAYTON ID	4417	11444	ID	037	STREAM	1971	1972		*				GS
79	Z	82213	13297000	WARM SPRINGS C AT ROBINSON BAR NR C	4415	11441	ID	037	STREAM	1971	1972		*				GS
19	Z	82214	13297100	PEACH C NR CLAYTON ID	441550	1143850	ID	037	STREAM	1971	1972		*				GS
79	Z	82215	13297300	HOLMAN C NR CLAYTON ID	441452	1143143	ID	037	STREAM	1971	1972		*				GS
79	Z	74583	13297330	THOMPSON C NR CLAYTON ID	441601	1143049	ID	007	STREAM	1970			*		*	*	GS
79	Z	82216	13297500	BIG BOULDER C NR CLAYTON ID	440700	1142550	ID	037	STREAM	1971	1972		*				GS
79	Z	82217	13298000	EF SALMON R NR CLAYTON ID	441329	1141706	ID	037	STREAM	1971	1972		*				GS
79	Z	82218	13298300	MALM GULCH NR CLAYTON ID	442118	1141545	ID	051	STREAM	1972	1972		*				GS
79	Z	55748		CHALLIS C NR CHALLIS ID	443340	1141640	ID	037	STREAM	1962	1973		8				RR
79	Z	82219	13299200	CHALLIS C BL JEFFS C NR CHALLIS I	443340	1141640	ID	037	STREAM	1962	1970		*				GS
79	V	82897	13301700	MORSE C AB DIV NR MAY ID	443655	1134825	ID	059	STREAM	1971	1971		*				GS
79	Z	77240	I 1	NF IRON CREEK	445830	1140700	ID	059	STREAM	1972			2				FS
79	Z	77241	I 2	NF IRON CREEK	445730	1140700	ID	059	STREAM	1972			2				FS
79	Z	77242	I 3	NF IRON CREEK	445530	1140630	ID	059	STREAM	1972			2				FS
79	Z	77243	I 4	NF IRON CREEK	445530	1140430	ID	059	STREAM	1972			2				FS
79	Z	77244	I 5	NF IRON CREEK	445500	1140330	ID	059	STREAM	1972			2				FS
79	W	77245	BB 1	BIG EIGHTMILE CREEK	4437	11334	ID	059	STREAM	1972			2				FS
79	W	77246	BB 2	BIG EIGHTMILE CREEK	443830	1133000	ID	059	STREAM	1972			2				FS
79	W	77247	BB 3	BIG EIGHTMILE CREEK	443830	1133200	ID	059	STREAM	1972			2				FS
79	W	77248	BB 4	BIG EIGHTMILE CREEK	4439	11331	ID	059	STREAM	1972			2				FS
79	Z	77249	D 1	DAHLONEGA CREEK	453330	1135200	ID	059	STREAM	1972			2				FS
79	Z	77250	D 2	DAHLONEGA CREEK	453330	1135430	ID	059	STREAM	1972			2				FS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
79	Z	77251	A 1	ANDERSON CREEK	453330	1135530	ID	059	STREAM	1972			2				FS
79	Z	77252	A 2	ANDERSCN CREEK	453310	1135530	ID	059	STREAM	1972			2				FS
79	Z	77253	A 3	ANDERSON CREEK	453300	1135530	ID	059	STREAM	1972			2				FS
79	Z	77254	D 3	CAHLONEGA CREEK	453230	1135600	ID	059	STREAM	1972			2				FS
79	Z	77255	DU 1	DUMP CREEK	4523	11404	ID	059	STREAM	1972			2				FS
79	Z	77256	M 1	MOOSE CREEK	4522	11405	ID	059	STREAM	1972			2				FS
79	Z	77257	IN 1	INDTAN CREEK	4529	11408	ID	059	STREAM	1972			2				FS
79	Z	77258	IN 2	INDIAN CREEK	4528	11408	ID	059	STREAM	1972			2				FS
79	Z	77259	IN 3	INDIAN CREEK	4527	11409	ID	059	STREAM	1972			2				FS
79	Z	77260	IN 4	INDIAN CREEK	4524	11410	ID	059	STREAM	1972			2				FS
79	Z	77261	MS 1	MUSGRCVE CREEK	4503	11422	ID	059	STREAM	1972			2				FS
79	Z	77262	MS 2	MUSGROVE CREEK	450230	1142100	ID	059	STREAM	1972			2				FS
79	Z	77263	MS 3	MUSGROVE CREEK	4501	11419	ID	059	STREAM	1972			2				FS
79	X	77264	C 1	CAMAS CREEK	445045	1143110	ID	059	STREAM	1972			2				FS
79	X	77265	C 2	CAMAS CREEK	445100	1143130	ID	059	STREAM	1972			2				FS
79	X	77266	C 3	CAMAS CREEK	445130	1143200	ID	059	STREAM	1972			2				FS
79	Z	77267	MF 1	MF SALMON R AT MOUTH	451800	1143530	ID	059	STREAM	1972			2				FS
79	Y	85955	15	GOAT CR X-S	444505	1154110	ID	085	STREAM	1973					7		FS
79	Y	85956	14	UPPER PCVERTY X-S	444845	1154225	ID	085	STREAM	1973					7		FS
79	Y	85957	13	POVERTY X-S	444900	1154225	ID	085	STREAM	1967					7		FS
79	Y	85558	12	LOWER POVERTY X-S	444943	1154220	ID	085	STREAM	1973					7		FS
79	Y	85959	11	UPPER LPCG X-S	445115	1154200	ID	085	STREAM	1973					7		FS
79	Y	85960	10	LOWER LPCG X-S	445125	1154205	ID	085	STREAM	1973					7		FS
79	Y	85961	9	DARLING X-S	445140	1154205	ID	085	STREAM	1973					7		FS
79	Y	85962	8	UPPER OXBOW X-S	445245	1154304	ID	085	STREAM	1973					7		FS
79	Y	85963	7	CAMP CR X-S	445325	1154302	ID	085	STREAM	1967					7		FS
79	Y	85964	6	BUCKHORN	445458	1154425	ID	085	STREAM	1967					7		FS
79	Y	85965	5	SALMON PT X-S	445635	1154432	ID	085	STREAM	1973					7		FS
79	Y	85966	4	KRASSEL STATION X-S	445743	1154355	ID	085	STREAM	1967					7		FS
79	Y	85967	3	UPPER KRASSEL HOLE X-S	445820	1154408	ID	085	STREAM	1973					7		FS
79	Y	85968	2	KRASSEL HOLE X-S	445832	1174350	ID	085	STREAM	1973					7		FS
79	Y	85969	1	GRAGING STATION X-S	445908	1154333	ID	085	STREAM	1973					7		FS
79	Y	73782	2	AF OF SF K CREEK	451245	1153524	ID	049	STREAM	1971	1972				8		FS
79	Y	73783	3	SF OF SF K CREEK	451244	1153524	ID	049	STREAM	1971	1972				8		FS
79	Y	73802		SF K CREEK	451244	1153521	ID	049	STREAM	1971	1971				8		FS
79	Y	73784	4	NORTH FORK K CREEK	451312	1153452	ID	049	STREAM	1971	1972				8		FS
78	X	73785		RAPID RIVER AB LAKE CREEK	451058	1162901	ID	003	STREAM	1971	1972		6			6	FS
78	X	73786		LAKE CREEK	451104	1162906	ID	003	STREAM	1971	1972		6			6	FS
78	X	73787		LONESOME CREEK	451320	1162648	ID	003	STREAM	1971	1972					6	FS
78	X	73789		PARADISE CREEK	451329	1162653	ID	003	STREAM	1971	1972		6			6	FS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
78	X	73790		RAPID RIVER AB COPPER CREEK	451501	1162614	ID	003	STREAM	1971	1972		6			6	FS
78	X	73791		COPPER CREEK	451503	1162617	ID	003	STREAM	1971	1972		6			6	FS
78	X	73792		RAPID R AB CASTLE CREEK	451540	1162549	ID	003	STREAM	1971	1972		6			6	FS
78	X	73793		CASTLF CREEK	451540	1162546	ID	003	STREAM	1971	1972		6			6	FS
78	X	73794		RAPID R BL CASTLE CREEK	451544	1162541	ID	003	STREAM	1971	1972		6			6	FS
78	Y	54235	13331500	MINAM R AT MINAM OR	453712	1174332	OR	063	STREAM	1965			5				GS
76	AG	52083	13334300	SNAKE R NR ANATONE WA	460550	1165836	WA	003	STREAM	1959			2	6			GS
76	AD	52086	13340900	NF CLEARWATER R AB AHSAHKA IDAHO	4633	11617	ID	035	STREAM	1966	1967		4				GS
76	AD	52087	13341000	N F CLEARWATER R NR AHSAHKA ID	463100	1161735	ID	035	STREAM	1957	1971		*			*	GS
76	AE	83995	13342450	LAPWAI C NR LAPWAI ID	462536	1164815	ID	069	STREAM	1974			6				GS
76	AE	52089	13342500	CLEARWATER R AT SPALDING ID	462655	1164935	ID	069	STREAM	1959			2	6			GS
76	AF	52000	13351000	PALOUSE R AT HOOPER WA	464531	1180852	WA	075	STREAM	1961	1971		3				GS
76	AG	76380	13353200	SNAKE R AT BURBANK WA	461259	1190122	WA	071	STREAM	1960			5				GS
76	AH	52002	14013600	MILL C BL BLUE C NR WALLA WALLA WN	460455	1181125	WA	071	STREAM	1962	1970		3	3			GS
76	AH	52003	14018500	WALLA WALLA R NR TOUCHET WASH	460215	1184555	WA	071	STREAM	1959		*	3	3			GS
76	AH	80809	14018600	WALLA WALLA R BL WARM SPRING CANYN	460215	1184555	WA	071	STREAM	1961	1971		5				GS
74	A	62821	63614 - 0508	CORPORATION	4543	11815	OR	059	STREAM	1966			3	3			FS
74	J	52005	14034350	ALDER C AT ALDERCALE WASH	455127	1195515	WA	039	STREAM	1962	1968		3	3			GS
74	B	54221	14034500	WILLOW C AT HEPPNER OR	452105	1193300	OR	049	STREAM	1962		*	5				GS
74	J	52006	14036600	ROCK C NR ROOSEVELT WA	454455	1202604	WA	039	STREAM	1962	1968		3	7			GS
74	V	86668	WIL207	RICKREALL C NR DALLAS AT GAGE	445450	1232320	OR	053	STREAM	1972			8				BR
74	R	86666	WIL205	WILLAMINA C NR WILLIAMINA	450835	1232935	OR	071	STREAM	1972			8				BR
74	R	86667	WIL206	MILL CR NR WILLIAMINA AT GAGE	445815	1232655	OR	053	STREAM	1972			8				BR
74	R	86665	WIL202	YAMHILL' R AT DAYTON BOAT RP	451326	1230411	OR	071	STREAM	1972			8				BR
74	T	86669	TUL111	TUALATIN R AT CHY GR CNTY RD BRDG	452643	1231317	OR	067	STREAM	1972			8				BR
74	T	86670	TUL112	GALES CR BALM GR CNTY RD BRIDG	453558	1231259	OR	067	STREAM	1972			8				BR
74	T	86671	TUL115	TUALATIN R CORNELIUS CNTY RD BRDG	453008	1230317	OR	067	STREAM	1972			8				BR
74	T	86672	TUL113	W F DAIRY C N BKS HWY 26 BRDG	453823	1230711	OR	067	STREAM	1972			8				BR
74	T	86673	TUL114	E F DAIRY C MTNDALE CNTY RD BRDG	453800	1230220	OR	067	STREAM	1972			8				BR
74	T	86674	TUL116	DAIRY C HILLSBORO HWY 8 BRDG	453111	1230034	OR	067	STREAM	1972			8				BR
74	T	86675	TUL117	ROCK C HILLSBORO CNTY RD BRDG	452952	1225653	OR	067	STREAM	1972			8				BR
74	T	86676	TUL118	TUALATIN R FARMINGTON HARRIS BRDG	452658	1225658	OR	067	STREAM	1972			8				BR
74	T	86677	TUL119	TUALATIN R TUALATIN HWY 99 W BRDG	452339	1224753	OR	067	STREAM	1972			8				BR
74	T	86678	TUL120	FANNO C DURHAM CNTY RD BRDG	452420	1224513	OR	067	STREAM	1972			8				BR
74	T	86679	TUL121	TUALATIN R WILINN HWY 212 BRDG	452103	1224030	OR	005	STREAM	1972			8				BR
74	U	62825	63606 - 2408	BIG BOTTOM	450100	1215510	OR	005	STREAM	1967	1971		3	3			FS
74	Z	67609	14222950	DRY C NR COUGAR WA	460717	1221934	WA	015	STREAM	1969	1971		7				GS
74	AD	85414	14306030	YAQUINA R NR CHITWOOD OR	443929	1235015	OR	041	STREAM	1973			3	8			GS
74	AD	75155	14306500	ALSEA R NR TIDEWATER OR	442310	1234950	OR	041	STREAM	1972			1	7			GS
74	AD	61462	DCI	DEER C 1	4432	12352	OR	041	STREAM	1962	1967		4				SOO

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NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
74	AD	61463	DCII	DEER C II	4432	12352	OR	041	STREAM	1962	1967		4				S00
74	AD	61464	DCIII	DEER C III	4432	12352	OR	041	STREAM	1962	1967		4				S00
74	AD	61465	DCIV	DEER C IV	4432	12352	OR	041	STREAM	1964	1967		4				S00
74	AD	61466	DCV	DEER C V	4432	12352	OR	041	STREAM	1963	1967		4				S00
74	AD	61467	DC VI	DEER C VI	4432	12352	OR	041	STREAM	1964	1967		4				S00
73	Q	62967	14327150	SIXES R AT SIXES OR	424905	1242900	OR	015	STREAM	1967	1970		1				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCONTINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN: 17																	
TOTAL:		366															

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	

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70	L	83977	09424190	COLORADO R AQUEDUCT NR SAN JACINTO	334918	1165801	CA	071	STREAM	1974			5				GS
70	E	66774	10254970	NEW R AT INTERNATIONAL BOUNDARY AT	323957	1153008	CA	025	STREAM	1969			5				GS
70	E	72885	10256000	WHITEWATER R AT WHITEWATER CA	335648	1163824	CA	065	STREAM	1967			5				GS
70	F	51418	10260550	W. F. MOHAVE R AB CEDAR SPRINGS CA	345520	1174510	CA	071	STREAM	1961	1967		2	7			GS
70	F	51419	10260700	EF OF WF MOJAVE R AB CEDAR SPRINGS	341618	1171840	CA	071	STREAM	1961	1967		2	7			GS
70	F	51420	10260800	W. F. MOJAVE R BL CEDAR SPRINGS CA	341825	1171840	CA	071	STREAM	1961	1967		2	1			GS
69	C	83976	10277400	OWENS R BL TINEMAHA DAM NR BIG PINE	370315	1181333	CA	027	STREAM	1974			5				GS
70	H	66781	11013500	TIJUANA R NR NESTOR CA	323306	1170500	CA	073	STREAM	1969				7			GS
70	I	66782	11022500	SAN DIEGO R NR SANTEE CA	324929	1170317	CA	073	STREAM	1969			3				GS
70	I	69815	11023250	POWAY C NR POWAY CA	325713	1170050	CA	073	STREAM	1969			2	2			GS
70	I	69816	11023310	RATTLESNAKE C AT POWAY CA	325707	1170256	CA	073	STREAM	1969			2	2			GS
70	I	69817	11023315	POWAY C TR AT OAK KNOLL RD NR POWAY	325702	1170327	CA	073	STREAM	1969			2	2			GS
70	I	69818	11023318	POMERADO C AT GLENCAK RD NR POWAY C	325825	1170338	CA	073	STREAM	1969			2	2			GS
70	I	73829	11023320	POMERADO C AT POWAY RD NR POWAY CA	325707	1170348	CA	073	STREAM	1969			2	2			GS
70	I	69819	11023325	BEELER C AT POMERADO RD NR POWAT CA	325623	1170357	CA	073	STREAM	1969			2	2			GS
70	I	69820	11023330	LOS PENASQUITOS C BL POWAY C NR POW	325658	1170408	CA	073	STREAM	1969			2	2			GS
70	I	66783	11042000	SAN LUIS REY R AT OCEANSIDE CA	331248	1172233	CA	073	STREAM	1968			3				GS
70	J	66187	11046000	SANTA MARGARITA R AT YSIDORA CA	331413	1172314	CA	073	STREAM	1967			3		7		GS
70	K	61625	11046500	SAN JUAN C NR SAN JUAN CAPISTRANO C	332930	1173944	CA	059	STREAM	1971			3				GS
70	I	80264	[illegible]046550	SAN JUAN C AT SAN JUAN CAPISTRANO C	332930	1173944	CA	059	STREAM	1966			1	5	7		GS
70	K	66188	11047000	ARROYO TRABUCO NR SAN JUAN CAPISTRA	333136	1174008	CA	059	STREAM	1971			3				GS
70	K	74224	11047300	ARROYO TRABUCO AT SAN JUAN CAPISTRA	332954	1173954	CA	059	STREAM	1970						3	GS
70	K	76015	11048500	SAN DIEGO C NR IRVINE CA	334020	1174710	CA	059	STREAM	1971			3				GS
70	M	76289	11048550	SAN DIEGO C AT LANE RD NR IRVINE CA	334018	1175006	CA	059	STREAM	1972			3			3	GS
70	M	76256	11070232	EF PIGEON PASS C AT HEACOCK ST NR S	335749	1171435	CA	065	STREAM	1969			2				GS
70	M	76297	11070240	SUNNYMEAD CH A ALESSNDRO BLVD NR SU	335502	1171434	CA	065	STREAM	1969			2				GS
70	M	76298	11070262	PERRIS V STODR LAT B AT PERRIS BV N	335437	1171608	CA	065	STREAM	1969			2				GS
70	L	73874	11070270	PERRIS VALLEY ST DRAIN AT NUEVO RD	334804	1171219	CA	065	DRAIN	1969			2				GS
70	M	66786	11074000	SANTA ANA R BL PRADO DAM CA	335300	1173840	CA	065	STREAM	1966			*				GS
70	M	76300	11075600	SANTA ANA R AT IMPERIAL HIGHWAY NR	335123	1174723	CA	059	STREAM	1972			3			3	GS
70	M	66189	11078000	SANTA ANA R AT SANTA ANA CALIF	334456	1175430	CA	059	STREAM	1967			3	8	8		GS
70	O	76301	11103010	LOS ANGELES R A WILLOW ST BRA LONG	334816	1181215	CA	037	STREAM	1973			5				GS
70	O	85375		LOS ANGELES R AT PACIFIC COAST HWY	334806	1181212	CA	037	STREAM	1973			5	5	5		GS
70	P	66190	11105850	ARROYC SIMI NR SIMI CA	341641	1184743	CA	111	STREAM	1968			3	3			GS
70	P	66191	11106550	CALLEGUAS C AT CAMARILLO STATE HOSP	341046	1190220	CA	111	STREAM	1968			3	3			GS
71	N	51427	11108070	ELIZABETH LAKE CN C AB CASTAIC CAL	343340	1183410	CA	037	STREAM	1962	1967		*	*	*		GS
71	A	81809	11108080	FISH CANYON C AB CASTAIC C NR CASTA	343639	1183946	CA	037	STREAM	1965	1966		2	7			GS
71	A	51428	11108085	CASTAIC C AB CORDOVA RH NR CASTA C	343552	1183946	CA	037	STREAM	1961	1968		*	*	*		GS
71	A	66152	11108500	SANTA CLARA R AT LCS ANGELES VENTUR	342359	1184214	CA	111	STREAM	1968			3	7	7		GS
71	A	51429	11109300	PIRU C BL BUCK CREEK CA	343957	1184922	CA	111	STREAM	1964	1966		2	7			GS

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NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
71	A	51430	11109400	CANADA DE LOS ALAMOS BL APPLE CANYO	344044	1184701	CA	037	STREAM	1964	1966		2	7			GS
71	A	51431	11109550	PIRU C AB FRENCHMANS FLAT CA	343743	1184442	CA	037	STREAM	1964		*	2	7			GS
71	A	51432	11111500	SESPE C NR WHEELER SPRINGS CA	343440	1191525	CA	111	STREAM	1956			*	*			GS
71	A	51433	11113000	SESPE C NR FILLMORE CA	342703	1185530	CA	111	STREAM	1950			3	7			GS
71	A	66193	11113910	SANTA CLARA R AT DIV NR SATICOY CA	341735	1190657	CA	111	STREAM	1967	1970		3	8	8		GS
71	A	69823	11114000	SANTA CLARA R AT MONTALVO CA	341431	1191121	CA	111	STREAM	1967			1				GS
71	B	69824	11118500	VENTURA R NR VENTURA CA	342108	1191827	CA	111	STREAM	1966			1				GS
71	C	51434	11130500	SANTA YNEZ R NR BUELLTON CALIF	343650	1201430	CA	083	STREAM	1962	1968		*	*	*		GS
71	C	51435	11132500	SALSIPLEDES C NR LOMPOC CALIF	343520	1202427	CA	083	STREAM	1965	1968	*	*	*	*		GS
71	F	69825	11141000	SANTA MARIA R A GUADALUPE CA	345835	1203415	CA	083	STREAM	1968			3	8	8		GS
71	G	66194	11141150	ARROYO GRANDE AB PHOENIX C NR ARROY	351103	1202611	CA	079	STREAM	1967	1973		1	6	7		GS
71	G	66195	11141280	LOPEZ C NR ARROYO GRANDE CA	351348	1202822	CA	079	STREAM	1967	1972		*	*	*		GS
71	I	67550	11147040	SANTA RITA C TR NR TEMPLETON CALIF	353203	1205047	CA	079	STREAM	1967			3	8	8		GS
71	I	67551	11147070	SANTA RITA C NR TEMPLETON CA	353126	1204554	CA	079	STREAM	1967	1973		1	6	7		GS
71	I	51438	11148800	NACIMIENTO R NR BRYSON CALIF	354806	1210650	CA	053	STREAM	1958		*	3	8	8	*	GS
71	I	73867	11148900	NACIMIENTO R BL SAPAQUE C NR BRYSON	354719	1210534	CA	079	STREAM	1971			1	6	7		GS
71	I	51440	11149900	SAN ANTONIO R NR LOCKWOOD CA	355348	1210514	CA	053	STREAM	1965			1	6	7		GS
71	I	70045	11150500	SALINAS R NR BRADLEY CA	355549	1205204	CA	053	STREAM	1950				*			GS
71	I	51443	11151870	ARROYO SECO NR GREENFIELD CA	361415	1212850	CA	053	STREAM	1962			1	6	7		GS
71	I	81805	11152300	SALINAS R NR CHUALAR, CA	363314	1213250	CA	053	STREAM	1950	1969		3	7			GS
71	I	66196	11152500	SALINAS R NR SPRECELS CA	363752	1214017	CA	053	STREAM	1958		*	1	6	7		GS
71	K	73833	11152900	CEDAR C NR BELL STATION CA	370300	1211935	CA	085	STREAM	1970	1971			*			GS
71	K	73873	11153470	LLAGAS C AB CHESBRO RE NR MORGAN HI	370854	1214602	CA	085	STREAM	1971			1	5	6		GS
71	K	51445	11153900	UVAS C AB UVAS RE NR MORGAN HILL CA	370534	1214302	CA	085	STREAM	1964			1	6	7		GS
71	K	73834	11154100	BODFISH C NR GILROY CA	370015	1213958	CA	085	STREAM	1970	1971			*			GS
71	K	69826	11160300	ZAYANTE C AT ZAYANTE CA	370510	1220245	CA	087	STREAM	1970	1973		1	6	7		GS
71	K	51450	11160500	SAN LORENZO R AT BIG TREES CA	370240	1220417	CA	087	STREAM	1952			1	6	7		GS
71	L	51451	11162500	PESCADERO C NR PESCADERO CA	371539	1221940	CA	081	STREAM	1965			*	*	*		GS
71	L	73835	11162540	BUTANO C NR PESCADERO CA	371401	1222156	CA	081	STREAM	1970	1972		*	*	*		GS
71	L	51452	11162720	COLMA C AT SOUTH SAN FRANCISCO CA	373914	1222531	CA	081	STREAM	1965			1	6	7		GS
71	L	51453	11162722	SPRUCE B A S SAN FRANCISCO CALIF	373846	1222515	CA	081	STREAM	1965	1969		*	*	*		GS
71	L	73836	11162800	REDWOOD C AT REDWOOD CITY CA	372658	1221357	CA	081	STREAM	1970	1971		*	*	*		GS
71	L	73837	11166000	MATADERO C AT PALO ALTO CA	372518	1220804	CA	085	STREAM	1970	1971		*	*	*		GS
71	L	76303	11167700	ROSS C BL JARVIS ROAD AT SAN JOSE C	371548	1215308	CA	085	STREAM	1972	1974			5	7		GS
71	L	83851	11169579	CALABAZAS C AT MT EDEN RD NR SARATC	371603	1220331	CA	085	STREAM	1973				7	7		GS
71	L	76304	11169580	CALABAZAS C TR AT MT EDEN ROAD NR S	371609	1220336	CA	085	STREAM	1972			1	5	7		GS
71	L	83853	11169584	CALABAZAS C TR 2 AT MT EDEN RD NR S	371600	1220327	CA	085	STREAM	1973				2	2		GS
71	L	83852	11169586	CALABAZAS C TR3 AT MT EDEN RD NR SA	371554	1220319	CA	085	STREAM	1973				7	7		GS
71	L	83854	11169588	CALABAZAS C TR4 AT MT EDEN RD NR SA	371554	1220318	CA	085	STREAM	1973				7	7		GS
71	L	83855	11169589	CALABAZAS C TR5 AT PIERCE RD NR SAR	371554	1220310	CA	085	STREAM	1973				7	7		GS

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NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
71	L	76305	11169590	CALABAZAS C AT VIA REGINA NR SARATO	371600	1220304	CA	085	STREAM	1972				7			GS
71	L	76306	11169600	PROSPECT C AT SARATOGA GOLF CRSE NR	371709	1220314	CA	085	STREAM	1972			1	5	7		GS
71	L	76307	11169610	PROSPECT C AT MARIA LANE NR SARATOG	371738	1220234	CA	085	STREAM	1972				7			GS
71	L	83856	11169611	PROSPECT C TR NR SARATOGA CA	371738	1220234	CA	085	STREAM	1972				7	7		GS
71	L	83858	11169616	CALABAZAS C AT RAINBOW DRIVE NR CUP	371803	1220132	CA	085	STREAM	1973			1	6	6		GS
71	L	51455	11169800	COYOTE C NR GILROY CA	370440	1212936	CA	085	STREAM	1964			1	6	7		GS
71	L	73838	11176200	ARROYO MOCHO NR PLEASANTON CA	374126	1215220	CA	001	STREAM	1970	1971		*	*	*		GS
71	L	83561	11176400	ARROYO VALLE AB LANG CANYON NR LIVE	373300	1213957	CA	001	STREAM	1973			1	5			GS
71	L	51457	11176500	ARROYO VALLE NR LIVERMORE CA	373724	1214528	CA	001	STREAM	1958			*	*	*		GS
71	L	51458	11179000	ALAMEDA C NR NILES CA	373514	1215735	CA	001	STREAM	1952	1973		1	6	7		GS
71	L	73868	11181008	CASTRO VALLEY C AT HAYWARD CA	374048	1220446	CA	001	STREAM	1971				5	7		GS
71	L	76308	11181300	PERALTA CREEK AT OAKLAND CA	374659	1221306	CA	001	STREAM	1972				5	7		GS
72	R	73839	11182400	ARROYO DEL HAMBRE AT MARTINEZ CA	380012	1220744	CA	013	STREAM	1970	1971		*	*	*		GS
72	R	73840	11183600	WALNUT C AT CONCORD CA	375643	1220255	CA	013	STREAM	1970	1971		*	*	*		GS
71	N	55523	051307-2	SALMON C TR C CA	355415	1182330	CA	107	STREAM	1960		*	8				FS
71	N	55522	051307-1	SALMON C TR B CA	355405	1182305	CA	107	STREAM	1960		*	8				FS
71	N	55524	051307-3	SALMON C TR E CA	355415	1182345	CA	107	STREAM	1961		*	8				FS
71	N	51461	11187000	KERN R AT KERNVILLE CA	354534	1182512	CA	029	STREAM	1962			*	*			GS
71	O	73406		TULE R BL SUCCESS DAM CA	360323	1185522	CA	107	STREAM	1962			5				CE
71	O	73812	051303-T1	FRANKLIN C NR MOUTH	362550	1183500	CA	107	STREAM	1971			8				FS
71	O	73813	051303-T2	WHITE CHIEF C NR MOUTH	362600	1183550	CA	107	STREAM	1971			8				FS
71	O	66790	11208605	E. F. KAWEAH R BL EAGLE C, NR HAMMO	362644	1183538	CA	107	STREAM	1968	1971		6				GS
71	O	73807		EF KAWEAH R BL EAGLE C NR HAMMOND	362644	1183538	CA	107	STREAM	1971			3				FS
71	O	73814	051303-T3	SPRING C NR MOUTH	362640	1183550	CA	107	STREAM	1971			8				FS
71	O	67552	11208607	E. F. KAWEAH R AT MONARCH C NR HAMM	362701	1183540	CA	107	STREAM	1968	1971		6				GS
71	O	73808		EF KAWEAH R AB MONARCH C NR HAMMND	362701	1183540	CA	107	STREAM	1971			8	8	8		FS
71	O	66197	11208610	MONARCH C NR HAMMOND CA	362709	1183537	CA	107	STREAM	1968			5				GS
71	O	73809		MONARCH C NR HAMMOND CA	362709	1183537	CA	107	STREAM	1971			8	8	8		FS
71	O	73815	051303-T4	MONARCH C NR MOUTH	362710	1183540	CA	107	STREAM	1971			8				FS
71	O	66198	11208615	E F KAWEAH R BL MONARCH C NR HAMMON	362709	1183556	CA	107	STREAM	1968	1971		6				GS
71	O	73816	051303-T5	MOSQUITO C NR MOUTH	362700	1183700	CA	107	STREAM	1971			8				FS
71	O	66199	11208620	EF KAWEAH R BL HAMMOND CA	362705	1183704	CA	107	STREAM	1968			5				GS
71	O	73811		EF KAWEAH R BL MSQUITO C NR HAMMND	362705	1183704	CA	107	STREAM	1971			3				FS
71	O	66200	11208625	EF KAWEAH R AT SEQUOIA PARK BNDRY N	362730	1183911	CA	107	STREAM	1968	1971		5				GS
71	O	66201	11208630	ATWELL C AT MINERAL KING HWY NR HAM	362757	1184030	CA	107	STREAM	1968	1971		6				GS
71	O	66202	11208650	REDWOOD C AT MINERAL KING HWY NR HA	362714	1184210	CA	107	STREAM	1968	1971		5				GS
71	O	66203	11208680	SAVIRRELL CR BL MINERAL KING HWY NR	362636	1184600	CA	107	STREAM	1968	1971		5				GS
71	O	66204	11208715	CRUNIGEN C BL MINERAL KING HWY NR H	362655	1181618	CA	107	STREAM	1968	1971		6				GS
71	O	66791	11208730	EF KAWEAH R NR THREE RIVERS CA	362705	1184715	CA	107	STREAM	1968			5				GS
71	O	73616		KAWEAH R BL TERMINUS DAM CA	362451	1190042	CA	107	STREAM	1962			5				CE

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NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
71	P	68138	051519-3	RUSH CREEK ABOVE PETERSON MILL	3704	11918	CA	019	STREAM	1969	1970		6				FS
71	P	68139	051519-4	RUSH CREEK BELOW PETERSON MILL	3703	11918	CA	019	STREAM	1969	1970		6				FS
71	P	68137	051519-2	TRIB TC BIG CREEK AT BRIDGE	3655	11915	CA	019	STREAM	1969	1970		6				FS
71	P	68136	051519-1	BIG CREEK AT BRIDGE	3655	11915	CA	019	STREAM	1969			6				FS
71	P	73621		KINGS R BELOW PINE FLAT DAM	364950	1192005	CA	019	STREAM	1954			5				CE
71	Z	51486	11255500	PANOCHE C BL SILVER C NR PANOCHE CR	363708	1204022	CA	019	STREAM	1962	1967		*	7			GS
71	Y	51491	11262800	LOS BANOS C NR LOS BANOS CA	370100	1205405	CA	047	STREAM	1962	1966		7	7			GS
71	S	61629	11264500	MERCED R AT HAPPY ISLES BRIDGE NR Y	374354	1193328	CA	043	STREAM	1965			5	5			GS
71	S	81556	11266400	MERCED R. AT FL CAPITAN BRDG NR YOS	374327	1193750	CA	043	STREAM	1973			6				GS
71	S	81558	11267050	MERCED R AT RANCHERIA FLAT NR EL PO	374010	1194825	CA	043	STREAM	1973			6				GS
71	Y	51508	11303500	SAN JOAQUIN R NR VERNALIS CA	374034	1211555	CA	077	STREAM	1951			3	3			GS
71	AA	51518	11313010	DELTA MENDOTA CA BL TRACY PUMPING P	374625	1213450	CA	077	CANAL	1955	1966		3	5			GS
71	X	51531	11323500	MOKELUMNE R BL CAMANCHE DAM CA	381314	1210219	CA	077	STREAM	1961			*				GS
71	W	51533	11335000	COSUMNES R AT MICHIGAN BAR CA	383001	1210239	CA	067	STREAM	1952			5	5			GS
71	W	51534	11336000	COSUMNES R AT MCCONNELL CA	382129	1212034	CA	067	STREAM	1956	1967			*			GS
71	AA	73841	11337500	MARSH C NR BYRON CA	375224	1214334	CA	013	STREAM	1970	1971			*	*		GS
72	B	51540	11348500	PIT R NR CANBY CA	412422	1205536	CA	049	STREAM	1951				5			GS
72	E	70068	11371000	CLEAR C A FRENCH GULCH CALIF	404140	1223810	CA	089	STREAM	1956	1965	*	8	8	8		GS
72	C	51547	11374400	MF COHONWOOD G NR ONO CA	402203	1223419	CA	089	STREAM	1963	1972			*			GS
72	C	51549	11375820	S F CCTTCNWOOD C NR COTTONWOOD CA	401859	1222652	CA	103	STREAM	1958	1971		*	*			GS
72	C	51550	11376000	COTTCNWOOD C NR COTTONWOOD CA	402310	1221415	CA	103	STREAM	1953			*	*			GS
72	E	51551	11376550	BATTLE C BL COLEMAN FISH HATCH NR C	402354	1220843	CA	089	STREAM	1961				5			GS
72	E	51552	11377200	SACRAMENTO R AT BEND CA	401551	1221319	CA	103	STREAM	1955			5				GS
72	E	76225	11378000	SACRAMENTO R NR RED BLUFF CA	401355	1221050	CA	103	STREAM	1956	1968		5	6			GS
72	Q	51555	11378500	SACRAMENTO R AT RED BLUFF CA	401040	1221350	CA	103	STREAM	1957	1966		3	7			GS
72	E	61634	11378860	RED BANK C AT RAWSON ROAD BRIDGE NR	400820	1221420	CA	103	STREAM	1964	1969		5	7			GS
72	E	51559	11379500	ELDER C NR PASKENTA CA	400129	1223031	CA	103	STREAM	1962	1970			5			GS
72	E	51562	11382000	THOMES C AT PASKENTA CA	395257	1223303	CA	103	STREAM	1958			3	5			GS
72	D	66793	11386500	GRINDSTONE C NR ELK CREEK CA	394038	1223151	CA	021	STREAM	1967			5	5			GS
72	D	51568	11388000	STONY C BL BLACK BUTTE DAM NR ORLAN	394907	1221925	CA	103	STREAM	1957		*		*			GS
72	E	73628		STONY C BL BLACK BUTTE DAM	394901	1222000	CA	103	STREAM	1965			5				CE
72	Q	69835	11390210	CHEROKEE CA NR NELSON CA	393454	1214154	CA	007	CANAL	1970	1974		3	3		3	GS
72	Q	51575	11390672	STONE CORRAL C NR SITES CA	391718	1221800	CA	011	STREAM	1965	1968		*	*			GS
72	G	51576	11391500	BIG GRIZZLY C AT GRIZZLY VALLEY DAM	395302	1202832	CA	063	STREAM	1957	1967		5	7			GS
72	G	69836	11392100	MF FEATHER R NR PORTOLA CA	394913	1202626	CA	063	STREAM	1970	1973		5				GS
72	G	65837	11392200	MF FEATHER R AT DELLEKER CA	394807	1202942	CA	063	STREAM	1970			5				GS
72	G	69838	11393300	MF FEATHER R BL LONG VALLEY C AT SL	395158	1204400	CA	063	STREAM	1970			5				GS
72	H	51581	11401500	INDIAN C NR CRESCENT MILLS CA	400420	1205536	CA	063	STREAM	1957	1966			*			GS
72	L	51585	11407000	FEATHER R AT OROVILLE CA	393113	1213248	CA	007	STREAM	1951			3				GS
72	E	51586	11407150	FEATHER R NR GRIDLEY CA	392200	1213846	CA	007	STREAM	1964			3	5			GS

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NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
72	L	51587	11407700	FEATHER R AT YUBA CITY CA	390820	1213617	CA	115	STREAM	1964			3				GS
72	K	67559	11408850	M YUBA R NR CAMPTONVILLE CAL	392507	1205706	CA	091	STREAM	1969			8	8	8		GS
72	K	51588	11409000	MIDDLE YUBA R AB OREGON C NR N SAN	392336	1210450	CA	057	STREAM	1965	1969		7	7			GS
72	K	73865	11410300	N YUBA R AB HAYPRESS C NR SIERR CY	393408	1203652	CA	091	STREAM	1971			8	8	8		GS
72	K	66210	11413100	N YUBA R AB SLATE C NR STRAWBERRY V	393129	1210526	CA	115	STREAM	1971			5	5			GS
72	K	51590	11417500	S YUBA R AT JONES BAR NR GRASS VALL	391732	1210613	CA	057	STREAM	1965			5	5			GS
72	L	51595	11423000	BEAR R NR AUBURN, CA	390100	1210621	CA	057	STREAM	1962	1967		*	*			GS
72	N	51600	11433500	MF AMERICAN R NR AUBURN CA	385505	1210051	CA	061	STREAM	1956	1967		*	*			GS
72	M	51601	11445500	SF AMERICAN R NR LOTUS CA	384907	1205645	CA	017	STREAM	1956			*	*			GS
72	O	76323	11447030	STRONG RANCH SLOUGH AT SACRAMENTO C	383609	1212340	CA	069	OTHER	1972			2				GS
72	Q	51605	11447500	SACRAMENTO R AT SACRAMENTO CA	383512	1213016	CA	067	STREAM	1906			3	3			GS
72	Q	51606	11447650	SACRAMENTO R AT FREEPORT CA	382720	1213005	CA	067	STREAM	1960			5				GS
72	F	61639	11448900	HIGHLAND C AB HIGHLAND C DAM CA	385548	1225511	CA	033	STREAM	1965	1966		*				GS
72	F	61640	11449010	HIGHLAND C BL HIGHLAND C DAM NR KEL	385654	1225403	CA	033	STREAM	1965			2	5	7		GS
72	F	51609	11451500	NF CACHE C NR LOWER LAKE CA	390109	1223404	CA	033	STREAM	1952	1966		*	*			GS
72	F	51610	11451720	BEAR C NR RUMSEY CA	385642	1222042	CA	011	STREAM	1960	1967		*	*			GS
72	F	51611	11451760	CACHE C AB RUMSEY CA	385447	1221614	CA	113	STREAM	1960	1970		*				GS
72	F	51612	11452000	CACHE C NR CAPAY CA	384344	1220615	CA	113	STREAM	1952			*	*			GS
72	F	51613	11452500	CACHE C AT YOLO CA	384331	1214822	CA	113	STREAM	1907	1967		3	5	5		GS
72	P	51614	11453500	PUTAH C NR GUENOC CA	384644	1223059	CA	033	STREAM	1960			5	7	7		GS
72	P	65839	11453550	HUNTING C NR KNOXVILLE CA	384618	1222426	CA	033	STREAM	1970			2	6	7		GS
72	P	69840	11453570	ADAMS C NR KNOXVILLE CA	384217	1221744	CA	055	STREAM	1970			2	6	7		GS
72	P	69841	11453580	NEVADA C NR KNOXVILLE CA	384242	1221731	CA	055	STREAM	1970			2	6	7		GS
72	R	51618	11456000	NAPA R NR ST HELENA CA	382952	1222537	CA	055	STREAM	1953			2	6	7		GS
72	R	73858	11458000	NAPA R NR NAPA CA	382206	1221808	CA	055	STREAM	1970	1971		5	6	7		GS
72	R	73859	11458200	REDWOOD C NR NAPA CA	381904	1222035	CA	055	STREAM	1970	1971		5	6	7		GS
72	R	76324	11459790	SAN RAFAEL C AT SIRARD LANE AT SAN	375904	1223258	CA	041	STREAM	1971			5	6	7		GS
72	R	76325	11459800	SAN RAFAEL C AT SAN RAFAEL CA	375822	1223207	CA	041	STREAM	1971			5	6	7		GS
72	R	76336	11459810	IRWIN C TR AT SAN RAFAEL CA	375928	1223029	CA	041	STREAM	1971			5	6	7		GS
72	R	76337	11459820	IRWIN C TR NO 2 AT SAN RAFAEL CA	375856	1223024	CA	041	STREAM	1971			5	6	7		GS
72	R	76338	11459830	IRWIN C AT SAN RAFAEL CA.	375836	1223050	CA	041	STREAM	1971			5	6	7		GS
72	R	66212	11460160	MORSES C AT BOLINAS CA	375509	1224009	CA	041	STREAM	1967	1969		5	7			GS
72	R	66213	11460165	AUDUBON C NR BOLINAS CA	375547	1224050	CA	041	STREAM	1967	1969		5	7			GS
72	R	66214	11460170	PINE C AT BOLINAS CA	375507	1224131	CA	041	STREAM	1967	1970		3	7			GS
72	R	73860	11460800	WALKER C NR TOMALES CA	381235	1225135	CA	041	STREAM	1970	1972		5	6	7		GS
72	R	51620	11460920	SALMON C AT BODEGA CA	382054	1225845	CA	097	STREAM	1964			5	6	7		GS
72	S	51621	11461000	RUSSIAN R NR UKIAH CA	391207	1231155	CA	045	STREAM	1964	1968		*	*			GS
72	S	51622	11461500	EF RUSSIAN R NR CALPELLA CA	391448	1230745	CA	045	STREAM	1952			*	*			GS
72	S	51623	11461800	LAKE MENDOCINO NR UKIAH CA	391153	1231050	CA	045	LAKE	1964	1968		*				GS
72	S	51624	11462000	EF RUSSIAN R NR UKIAH CA	391145	1231130	CA	045	STREAM	1952	1972		*	*	*		GS

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NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
72	S	51626	11463000	RUSSIAN R NR CLOVERDALE CA	385216	1230309	CA	045	STREAM	1963	1969		*	*			GS
72	S	51627	11463200	BIG SULPHUR C NR CLOVERDALE CA	384921	1225907	CA	097	STREAM	1963	1972		3	7	7		GS
72	S	51628	11463900	MAACAMA C NR KELLOGG CA	383825	1224545	CA	097	STREAM	1964	1967		*				GS
72	S	51631	11465200	DRY C NR GEYSERVILLE CA	384155	1225725	CA	097	STREAM	1964			1	5	7		GS
72	S	51632	11467000	RUSSIAN R NR GUERNEVILLE CA	383003	1225559	CA	097	STREAM	1951			1	5	7		GS
72	T	76339	11468990	HONEYDEW C NR HONEYDEW CA	401323	1240635	CA	023	STREAM	1972	1973		1	5	7		GS
72	V	51643	11471000	POTTER VALLEY POWERHOUSE TAILRCE NR	392142	1230738	CA	045	OTHER	1953			*	*			GS
72	V	51644	11472150	EEL R NR DOS RIOS CA	393730	1232025	CA	045	STREAM	1958			1	2	2		GS
72	V	51645	11472200	OUTLET C NR LONGVALE CALIF	393705	1232120	CA	045	STREAM	1958	1970		3	8	8		GS
72	V	61641	11472500	EEL R AB DOS RIOS CA	394120	1232130	CA	045	STREAM	1957			*	*	*		GS
72	U	61642	11472800	MF EEL R AB BLACK BUTTE R NR COVELO	394945	1230411	CA	045	STREAM	1966	1970		3	*			GS
72	U	51646	11472900	BLACK BUTTE R NR COVELA CA	394915	1230450	CA	045	STREAM	1964	1973		1	2	7		GS
72	U	51647	11473000	MF EEL R BL BLACK BUTTE R NR COVELO	394935	1230530	CA	045	STREAM	1961			2	2			GS
72	U	51648	11473100	WILLIAMS C NR COVELO CA	394930	1230825	CA	045	STREAM	1961	1969		5	7			GS
72	V	51649	11473700	MILL C NR COVELO CA	394457	1231048	CA	045	STREAM	1964	1970		5	7			GS
72	U	51650	11473800	ELK C NR HEARST CA	393850	1230713	CA	045	STREAM	1964	1973		6	7	7		GS
72	V	51651	11473900	MF EEL R NR DOS RIOS CA	394223	1231927	CA	045	STREAM	1956			1	2	7	6	GS
72	V	81825	11474000	EEL R BL DOS RIOS CA	394415	1232215	CA	045	STREAM	1956	1966		7	7			GS
72	V	51653	11474500	NF EEL R NR MINA CA	395618	1232036	CA	045	STREAM	1970			1	5	7	2	GS
72	V	76340	11474700	CHAMISE C NR ISLAND MOUNTAIN CA	400214	1233310	CA	023	STREAM	1972			1	5	7		GS
72	V	51654	11475000	EEL AT FORT SEWARD CA	401305	1233754	CA	023	STREAM	1960		*	1	2	7	2	GS
72	V	76341	11475100	DOBBYN C NR FORT SEWARD CA	401414	1233805	CA	023	STREAM	1972			1	5	7		GS
72	V	51656	11475500	SF EEL R NR BRANSCOMB CA	394309	1233906	CA	045	STREAM	1957	1970		3	7	7		GS
72	V	66216	11475560	ELDER C NR BRANSCOMB CA	394347	1233834	CA	045	STREAM	1967			2		7		GS
72	V	51657	11476500	SF EEL R NR MIRANDA CA	401055	1234630	CA	023	STREAM	1953			5				GS
72	V	51658	11477000	EEL R AT SCOTIA CA	402930	1240555	CA	023	STREAM	1953			1	6	6		GS
72	X	51661	11480500	MAD R NR FOREST GLEN CA	402730	1233035	CA	105	STREAM	1957			5	7	7		GS
72	X	61645	11480750	MAD R NR KNEELAND CA	404550	1235320	CA	023	STREAM	1965	1974		5	5	5		GS
72	X	76342	11480780	MAD R NR BLUE LAKE CA	405047	1235854	CA	023	STREAM	1972	1974			5	7		GS
72	X	76343	11480800	NF MAD R NR KORBEL CA	405311	1235626	CA	023	STREAM	1972	1974			5	7		GS
72	X	51662	11481000	MAD R NR ARCATA CA	405435	1240335	CA	023	STREAM	1955			6	1	7		GS
73	K	76344	11481500	REDWOOD C NR BLUE LAKE CA	405422	1234851	CA	023	STREAM	1972			1	5	6		GS
73	K	83566	11482020	REDWOOD C AT REDWOOD VALLEY BRIDGE	405748	1235020	CA	023	STREAM	1973			2	2	2		GS
73	K	83567	11482120	REDWOOD C AB PANTHER C NR ORICK, CA	410521	1235423	CA	023	STREAM	1973			2	2	2		GS
73	K	83568	11482140	HIGH-SLOPE SHIST C NR ORICK, CA	410725	1235651	CA	023	STREAM	1973			2	2	2		GS
73	K	83569	11482160	COPPER C NR ORICK CA	410858	1235553	CA	023	STREAM	1973			2	2	2		GS
73	K	83570	11482190	SLIDE C NR ORICK, CA	411019	1235649	CA	023	STREAM	1973			2	2	2		GS
73	K	73861	11482200	REDWOOD C AT S PARK BOUNDARY NR ORI	411019	1235655	CA	023	STREAM	1970			5	5			GS
73	K	83571	11482210	BRIDGE C NR ORICK, CA	411132	1235852	CA	023	STREAM	1973			2	2	2		GS
73	K	83572	11482220	REDWOOD C AB HARRY WEIR C NR ORICK,	411150	1235930	CA	023	STREAM	1973			2	2	2		GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
73	K	83573	11482225	HARRY WEIR C NR ORICK,CA	411153	1235932	CA	023	STREAM	1973			2	2	2		GS
73	K	83574	11482230	TOM MCDONALD C NR ORICK CA	411216	1240053	CA	023	STREAM	1973			2	2	2		GS
73	K	83575	11482240	FORTYFOUR C NR ORICK, CA	411315	1240044	CA	023	STREAM	1973			2	2	2		GS
73	K	83576	11482250	MILLER C NR ORICK, CA	411354	1235930	CA	023	STREAM	1973			2	2	2		GS
73	K	83577	11482260	MILLER C AT MOUTH NR ORICK, CA	411346	1240036	CA	023	STREAM	1973			2	2	2	2	GS
73	K	83578	11482270	BOND C NR ORICK, CA	411402	1240114	CA	023	STREAM	1973			2	2	2		GS
73	K	83579	11482280	CLOQUET C NR ORICK, CA	411442	1240037	CA	023	STREAM	1973			2	2	2		GS
73	K	83580	11482290	OSCAR LARSON C NR ORICK, CA	411523	1240030	CA	023	STREAM	1973			2	2	2		GS
73	K	83581	11482300	ELAM C NR ORICK, CA	411549	1240129	CA	023	STREAM	1973			2	2	2		GS
73	K	83582	11482310	MCARTHUR C NR ORICK, CA	411631	1240142	CA	023	STREAM	1973			2	2	2		GS
73	K	83583	11482320	LOW-SLOPE SCHIST C NR ORICK, CA	411653	1240149	CA	023	STREAM	1973			2	2	2		GS
73	K	83584	11482330	HAYES C NR ORICK, CA	411724	1240136	CA	023	STREAM	1973			2	2	2		GS
73	K	83585	11482450	LOST MAN C NR ORICK, CA	411906	1235915	CA	023	STREAM	1973			2	2	2		GS
73	K	83586	11482460	LARRY DAMM C NR ORICK, CA	411946	1240046	CA	023	STREAM	1973			2	2	2		GS
73	K	83587	11482470	L LOST MAN C NR ORICK, CA	411942	1240129	CA	023	STREAM	1973			2	2	2		GS
73	K	83857	11482475	GENEVA C NR ORICK CA	411936	1240153	CA	023	STREAM	1973			2	2	2		GS
73	K	83860	11482480	BERRY GLENN C NR ORICK CA	411859	1240217	CA	023	STREAM	1973			2	2	2		GS
73	K	51663	11482500	REDWOOD C AT ORICK CA	411720	1240330	CA	023	STREAM	1955				1			GS
73	G	51666	11517500	SHASTA R NR YREKA CA	414923	1223540	CA	093	STREAM	1955			*	*			GS
73	K	51669	11520500	KLAMATH R NR SEIAD VALLEY CA	415114	1231352	CA	093	STREAM	1955			*	*			GS
73	H	51670	11522500	SALMCN R AT SOMES BAR CA	412240	1232835	CA	093	STREAM	1955			5	5			GS
73	K	51671	11523000	KLAMATH R AT ORLEANS CA	411813	1233200	CA	023	STREAM	1951			1	7	7		GS
73	J	51672	11525500	TRINITY R AT LEWISTON CA	404310	1224809	CA	105	STREAM	1951			*	*			GS
73	J	51673	11525800	WEAVER C NR DOUGLAS CTY CA	404006	1225631	CA	105	STREAM	1962	1969		*	*			GS
73	J	51674	11526500	NF TRINITY R AT HELENA CALIF	404655	1230739	CA	105	STREAM	1962	1971		*	*			GS
73	J	51675	11527000	TRINITY R NR BURNT RANCH CA	404720	1232620	CA	105	STREAM	1953			*	*			GS
73	I	68345	FS1409400	ICE CREAM C AB BIG C NR HAYFORK	404030	1230810	CA	105	STREAM	1969			*				FS
73	I	61646	11528700	SF TRINITY R BL HYAMPOM CALIF	403900	1232935	CA	105	STREAM	1965			*	*	*		GS
73	I	51677	11529000	S F TRINITY R NR SALYER CA	405030	1233400	CA	105	STREAM	1956	1967		3	7			GS
73	J	51678	11530000	TRINITY R AT HOOPA CA	410300	1234015	CA	023	STREAM	1951			1	2	2		GS
73	K	51679	11530500	KLAMATH R NR KLAMATH CA	413045	1235830	CA	015	STREAM	1951			6	6			GS
73	W	51680	11532500	SMITH R NR CRESCENT CITY CA	414722	1240314	CA	015	STREAM	1952			2	6			GS
73	K	83861	11532620	MILL C NR CRESCENT CITY CA	414432	1240606	CA	015	STREAM	1974			2	2	2		GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCON-TINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN:		18															
TOTAL:		273															

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MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
84	F	63437	15008000	SALMON R NR HYDER AK	560134	1300355	AK	190	STREAM	1966	1972		7				GS
84	F	72861	15011500	RED R NR METLAKATLA AK	550829	1303150	AK	190	ESTARY	1964			7				GS
84	F	72862	15012000	WINSTANLEY C NR KETCHIKAN AK	552500	1305205	AK	190	STREAM	1949		*	*				GS
84	F	66955	15015600	KLAHINI R NR BELL ISLAND ALASKA	560315	1310255	AK	190	ESTARY	1967	1971		7				GS
84	F	69151	15022000	HARDING R NR WRANGELL AK	561250	1313814	AK	280	STREAM	1964	1972		7	7			GS
84	F	63430	15031000	LONG R AB LONG LK NR JUNEAU AK	581056	1335306	AK	110	STREAM	1966			7	7			GS
84	F	63431	15034000	LONG R NR JUNEAU AK	581000	1334150	AK	110	STREAM	1968	1972		*				GS
84	F	63443	15036000	SPEEL R NR JUNEAU AK	581210	1333640	AK	110	STREAM	1967			5	5			GS
84	F	70312	15048000	SHEEP C NR JUNEAU AK	581630	1341850	AK	110	STREAM	1948			7				GS
84	F	63418	15050000	GOLD C AT JUNEAU AK	581825	1342405	AK	110	STREAM	1948			7	7			GS
84	F	63429	15052000	LEMON C NR JUNEAU AK	582330	1342515	AK	110	STREAM	1948	1972		7				GS
84	F	63432	15052500	MENDENHALL R NR AUKE BAY AK	582505	1343240	AK	110	STREAM	1948			5	5			GS
84	F	63433	15052800	MONTANA C NR AUKE BAY AK	582353	1343634	AK	110	STREAM	1965			7	7			GS
84	F	56883	15053800	LAKE C AT AUKE BAY AK	582340	1343750	AK	110	STREAM	1963	1973		7	7	*		GS
84	F	56888	15054000	AUKE C AT AUKE BAY AK	582256	1343810	AK	110	STREAM	1962			7	7	*		GS
84	F	63420	15054200	HERBERT R NR AUKE BAY AK	583126	1344740	AK	110	STREAM	1966	1971		6	6			GS
84	F	69152	15054990	DAVIES C NR AUKE BAY AK	583906	1345307	AK	110	STREAM	1968	1972		*	*			GS
84	F	72859	15056200	WEST C NR SKAGWAY AK	593135	1352110	AK	230	STREAM	1965		*	7	7			GS
84	F	70314	15056210	TAIYA R NR SKAGWAY AK	593044	1352040	AK	230	STREAM	1969			5	5			GS
84	F	66983	15059500	WHIPPLE C NR WARD COVE AK	552630	1314738	AK	130	STREAM	1968			7	7			GS
84	F	80183	15060000	PERSEVERANCE C NR WACKER AK	552440	1314005	AK	130	STREAM	1948	1968		7				GS
84	F	80184	15064000	KETCHIKAN C AT KETCHIKAN AK	552040	1313805	AK	130	STREAM	1965	1967		7				GS
84	F	72858	15072000	FISH C NR KETCHIKAN AK	552330	1311140	AK	130	STREAM	1949		*	*				GS
84	F	66956	15081800	NB TROCADERO C NR HYDABURG AK	552141	1325220	AK	200	STREAM	1967	1971		7				GS
84	F	80201	15087000	MILL C AT WRANGELL AK	562804	1322233	AK	280	STREAM	1964	1966		6				GS
84	F	83636	15087200	HAMMER SL AT PETERSBURG AK	564827	1325710	AK	280	STREAM	1965	1966		7				GS
84	F	83631	15094000	DEER LK OUTLET NR PORT ALEXANDER AK	563110	1344010	AK	220	STREAM	1967	1967		7				GS
84	F	83630	15100000	TAKATZ C NR BARANOF AK	570835	1345150	AK	220	STREAM	1967	1968		7				GS
84	F	83629	15102000	HASSELBORG C NR ANGOON AK	573940	1341455	AK	030	STREAM	1967	1968		7				GS
84	F	63419	15102000	HASSELBORG C NR ANGOON AK	573940	1341455	AK		STREAM	1951	1968		6	6			GS
84	F	66957	15106920	KADASHAN R AB HOOK C NR TENAKEE AK	573959	1351126	AK	220	STREAM	1967			6				GS
84	F	66960	15106940	HOOK C AB TR NR TENAKEE AK	574049	1350758	AK	220	STREAM	1967			6		*		GS
84	F	66959	15106960	HOOK C NR TENAKEE AK	574032	1351005	AK	220	STREAM	1966			6		*		GS
84	F	66958	15106980	TONALITE C NR TENAKEE AK	574025	1351358	AK	220	STREAM	1968			6				GS
84	F	56884	15107000	KADASHAN R NR TENAKEE AK	574143	1351259	AK	220	ESTARY	1966			6				GS
84	F	72854	15108000	PAVLOF R NR TENAKEE AK	575030	1350210	AK	030	STREAM	1967		*	*				GS
84	F	63421	15108600	HILDA C NR DOUGLAS AK	581338	1342950	AK	110	STREAM	1967	1969		7				GS
84	F	63428	15108800	LAWSON C AT DOUGLAS AK	581705	1342440	AK	110	STREAM	1966	1972		6				GS
84	F	63415	15109000	FISH C NR AUKE BAY AK	581950	1343520	AK	110	STREAM	1966			7	7			GS
84	E	75057	15195000	DICK C NR CORDOVA AK	602036	1441810	AK	080	STREAM	1970			7				GS

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NUMBER	LETTER									BEGAN	DISCONTINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
84	E	63416	15200000	GAKONA R AT GAKONA AK	621805	1451820	AK	260	STREAM	1948	1972		7	7			GS
84	E	75087	15200280	GULKANA R AT SOURDOUGH AK	623215	1451820	AK	260	STREAM	1972			6				GS
34	E	83627	15200400	GULKANA R AT GULKANA AK	621608	1452352	AK	260	STREAM	1948	1972		7	7			GS
84	E	63447	15202000	TAZLINA R NR GLENNALLEN AK	620320	1452534	AK	260	STREAM	1953	1972		*	*			GS
84	E	83626	15206000	KLUTINA R AT COPPER CENTER AK	615710	1451820	AK	260	STREAM	1948	1972		6	6			GS
84	E	75088	15207800	L TONSINA R NR TONSINA AK	612849	1450905	AK	260	STREAM	1972			6				GS
84	E	54060	15208000	TONSINA R AT TONSINA AK	613948	1451050	AK	260	STREAM	1950			7	7			GS
84	E	66977	15208100	SQUIRREL C AT TONSINA AK	614005	1451026	AK	260	STREAM	1967			7	7			GS
84	E	63414	15212000	COPPER R NR CHITINA AK	612756	1442721	AK	260	STREAM	1950			7	7			GS
84	E	66973	15216000	POWER C NR CORDOVA AK	603514	1453705	AK	080	STREAM	1967			7	7			GS
84	E	83972	15216100	HUMPBACK C NR CORDOVA AK	603641	1454036	AK	080	STREAM	1973			7				GS
84	E	56889	15219000	WF OLSEN BAY C NR CORDOVA AK	604541	1461020	AK	080	STREAM	1964			7				GS
84	E	75108	15226500	LOWE R NR VALDEZ AK	610549	1455132	AK	260	STREAM	1970			6	7			GS
84	E	80174	15237700	RESURRECTION R NR SEWARD AK	600830	1492500	AK	210	STREAM	1952	1968		6	6			GS
84	E	66976	15238600	SPRUCE C NR SEWARD AK	600410	1492708	AK	210	STREAM	1968			7				GS
84	E	75089	15238820	BARBARA C NR SELDOVIA AK	592850	1513842	AK	120	STREAM	1972			6				GS
84	E	66962	15239000	BRADLEY R NR HOMER AK	594524	1505102	AK	120	STREAM	1967			6				GS
84	E	69154	15239800	DIAMOND C NR HOMER AK	594010	1514000	AK	120	STREAM	1970	1971		*				GS
84	E	63410	15239900	ANCHOR R NR ANCHOR POINT AK	594450	1514511	AK	120	STREAM	1967	1972		7	7			GS
84	E	80224	15240000	ANCHOR R AT ANCHOR POINT AK	594610	1515000	AK	120	STREAM	1953	1967		2				GS
84	E	69157	15241600	NINILCHIK R AT NINILCHIK AK	600256	1513948	AK	120	STREAM	1963			7	7			GS
84	E	75111	15242000	KASILOF R NR KASILOF AK	601905	1511532	AK	120	STREAM	1967	1969		*				GS
84	E	54059	15248000	TRAIL R NR LAWING AK	602601	1492219	AK	210	STREAM	1949	1970		*				GS
84	E	63422	15258000	KENAI R AT COOPER LANDING AK	602934	1494828	AK	120	STREAM	1958			7				GS
84	E	63423	15266300	KENAI R AT SOLDOTNA AK	602839	1510446	AK	120	STREAM	1967			7				GS
84	E	66961	15266500	BEAVER C NR KENAI AK	603350	1510703	AK	120	STREAM	1968			7	7			GS
84	E	66974	15267900	RESURRECTION C NR HOPE AK	605340	1493813	AK	120	STREAM	1968			7				GS
84	E	63417	15272550	GLACIER C AT GIRDWOOD AK	605629	1490944	AK	020	STREAM	1966			7	7			GS
84	E	63441	15273900	SF CAMPBELL C AT CANYON NR ANCH AK	610852	1494312	AK	020	STREAM	1966			*				GS
84	E	63442	15274000	SF CAMPBELL C NR ANCHORAGE AK	610957	1494615	AK	020	STREAM	1961			*	*			GS
84	E	56877	15274600	CAMPBELL C NR SPENARD AK	610817	1495520	AK	020	STREAM	1967			7	7			GS
84	E	63413	15275000	CHESTER C AT ANCHORAGE AK	611159	1495007	AK	020	STREAM	1967			*	*			GS
84	E	56876	15275100	CHESTER C AT ARCTIC BLVD AT ANCHORA	611219	1495343	AK	020	STREAM	1967			*	*			GS
84	E	63438	15276500	SHIP C AT ELMENDORF AIR FORCE BASE	611420	1494725	AK	020	STREAM	1967	1972		7	7			GS
84	E	56875	15277100	EAGLE R AT EAGLE RIVER AK	611828	1493332	AK	020	STREAM	1966			6	6			GS
84	E	83973	15277410	PETERS C NR BIRCHWOOD, AK	612508	1492920	AK	020	STREAM	1974			7				GS
84	E	85393		EKLUTNA R NR ANCHORAGE AK	6124	14908	AK		STREAM	1973			6	6			GS
84	E	54057	15281000	KNIK R NR PALMER AK	613021	1490153	AK	170	STREAM	1957			7	7	*		GS
84	E	75117	15282000	CARIBOU C NR SUTTON AK	614812	1474057	AK	170	STREAM	1965			7	7			GS
84	E	54056	15284000	MATANUSKA R AT PALMER AK	613634	1490416	AK	170	STREAM	1949	1968		*	*			GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
84	E	66970	15290000	L SUSITNA R NR PALMER AK	614232	1491336	AK	170	STREAM	1968			7	7			GS
84	E	75120	15291000	SUSITNA R NR DENALI AK	630614	1473057	AK	170	STREAM	1965			5	5			GS
84	E	75121	15291200	MACLAREN R NR PAXSON AK	630710	1463145	AK	170	STREAM	1958			7	7			GS
84	E	63444	15291500	SUSITNA R NR CANTWELL AK	624157	1473240	AK	170	STREAM	1962	1972		6	6			GS
84	E	75122	15292000	SUSITNA R AT GOLD CREEK AK	624604	1494128	AK	170	STREAM	1953			5	5			GS
84	E	66965	15292400	CHULITNA R NR TALKEETNA AK	623331	1501402	AK	170	STREAM	1967	1972		6	6			GS
84	E	63445	15292700	TALKEETNA R NR TALKEETNA AK	622049	1500101	AK	170	STREAM	1965			6	6			GS
84	E	70223	15292800	MONTANA C NR MONTANA AK	620632	1500312	AK	170	STREAM	1971	1972		6	6			GS
84	E	75124	15294300	SKWENTNA R NR SKWENTNA AK	615223	1512201	AK	170	STREAM	1968			7	7			GS
84	E	66964	15294500	CHAKACHATNA R NR TYONEK AK	611244	1522126	AK	120	STREAM	1968	1972		7	7			GS
84	E	66979	15296000	UGANIK R NR KODIAK AK	574129	1532510	AK	150	STREAM	1968			7				GS
84	E	63434	15297200	MYRTLE C NR KODIAK AK	573616	1522409	AK	150	STREAM	1968			7				GS
84	E	75091	15297470	MONASHKA C NR KODIAK AK	575034	1522644	AK	150	STREAM	1972			7				GS
84	D	70227	15297900	ESKIMO C AT KING SALMON, AK	584108	1564008	AK	070	STREAM	1971			6				GS
84	D	72851	15300500	KVICHAK R AT IGIUGIG AK	591944	1555357	AK	070	STREAM	1968		*	*				GS
84	D	69156	15302000	NUYAKUK R NR DILLINGHAM AK	595604	1581105	AK	070	STREAM	1967			7	7			GS
84	D	80203	15303000	WOOD R NR ALEKNAGIK AK	591630	1583537	AK	070	STREAM	1958	1968		7				GS
84	D	70228	15303010	SILVER SALMON C NR ALEKNAGIK AK	591434	1584021	AK	070	STREAM	1970			6				GS
84	D	83975	15303150	SNAKE R NR DILLINGHAM AK	590854	1585314	AK	070	STREAM	1973			7				GS
84	D	70229	15303600	KUSKOKWIM R AT MC GRATH AK	625710	1553511	AK	160	STREAM	1967	1973		*	*			GS
84	D	54055	15304000	KUSKOKWIM R AT CROOKED CREEK AK	615210	1580642	AK	160	STREAM	1957			6	6			GS
84	C	72848	15305950	TAYLOR C NR CHICKEN AK	635427	1421258	AK	250	STREAM	1971			6				GS
84	C	54054	15356000	YUKON R AT EAGLE AK	644722	1411152	AK	250	STREAM	1951			*	*			GS
84	C	63436	15389000	PORCUPINE R NR FORT YUKON AK	665926	1430816	AK	250	STREAM	1966			6	6			GS
84	C	63412	15389500	CHANDALAR R NR VENETIE AK	670549	1471104	AK	250	STREAM	1966	1973		6	6			GS
84	C	63411	15439800	BOULDER C NR CENTRAL AK	653405	1445313	AK	250	STREAM	1969	1971		*				GS
84	C	70231	15457800	HESS C NR LIVENGOOD AK	653955	1490547	AK	290	STREAM	1970			6				GS
84	C	54053	15468000	YUKON R AT RAMPART AK	653025	1501015	AK	250	STREAM	1954	1967		6	6			GS
84	C	72846	15470000	CHISANA R AT NORTHWAY AK	630023	1414817	AK	240	STREAM	1953		*	*	*			GS
84	C	54051	15476000	TANANA R NR TANACROSS AK	632318	1434447	AK	240	STREAM	1953	1971		*	*			GS
84	C	80244	15478000	TANANA RIVER AT BIG DELTA AK	640920	1455100	AK	240	STREAM	1948	1971		7	7	7		GS
84	C	69159	15484000	SALCHA R NR SALCHAKET AK	642822	1465526	AK	090	STREAM	1957			6	6			GS
84	C	72839	15493000	CHENA R NR TWO RIVERS AK	645355	1462442	AK	090	STREAM	1968		*	*	*			GS
84	C	63427	15511000	L CHENA R NR FAIRBANKS AK	645310	1471450	AK	090	STREAM	1967			6				GS
84	C	66982	15514500	WOOD R NR FAIRBANKS AK	642606	1481246	AK	090	STREAM	1968			6	6			GS
84	C	63446	15515500	TANANA R AT NENANA AK	643355	1490530	AK	290	STREAM	1967			7	7			GS
84	C	69158	15515800	SEATTLE C NR CANTWELL AK	631932	1481449	AK	290	STREAM	1970			7	7			GS
84	C	72836	15516000	NENANA R NR WINDY AK	632728	1484811	AK	290	STREAM	1960	1972	*	*				GS
84	C	54049	15518000	NENANA R NR HEALY AK	635043	1485637	AK	290	STREAM	1953	1968		*	*			GS
84	C	66578	15518300	TEKLANIKA R NR LIGNITE AK	645510	1492950	AK		STREAM	1967			6	6			GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
84	C	75144	15518350	TEKLANIKA R NR LIGNITE AK	635514	1492951	AK	290	STREAM	1967			6	6			GS
84	C	72834	15534900	POKER C NR CHATANIKA AK	650932	1472849	AK	090	STREAM	1971			6				GS
84	C	69160	15535000	CARIBOU C NR CHATANIKA AK	650400	1473305	AK	090	STREAM	1970			6	6			GS
84	C	69161	15564600	MELOZITNA R NR RUBY AK	644734	1553339	AK	290	STREAM	1967	1972		6	6			GS
84	C	54052	15564800	YUKON R AT RUBY AK	644428	1552922	AK	290	STREAM	1966			6	6			GS
84	C	70234	15564875	MF KOYUKUK R NR WISEMAN AK	672635	1500340	AK	290	STREAM	1971			6	6			GS
84	C	70294	15564885	JIM R NR BETTLES AK	664705	1505210	AK	290	STREAM	1971			6	6			GS
84	C	63425	15564900	KOYUKUK R AT HUGHES AK	660251	1541530	AK	290	STREAM	1965			6	6			GS
84	B	63440	15621000	SNAKE R NR NOME AK	643351	1653026	AK	180	STREAM	1965			6	6			GS
84	B	70233	15633000	WASHINGTON C NR NOME AK	644250	1654915	AK	180	STREAM	1972			6				GS
84	B	63426	15712000	KUZITRIN R NR NOME AK	651317	1643715	AK	180	STREAM	1965	1972		*				GS
84	B	80211	15743000	JUNE C NR KOTZEBUE AK	665137	1623613	AK	140	STREAM	1967	1967		7				GS
84	B	63424	15744000	KOBUK R AT AMBLER AK	670513	1575051	AK	140	STREAM	1967			*				GS
84	B	63435	15746000	NOATAK R AT NOATAK AK	673418	1625638	AK	140	STREAM	1955	1971		7	7			GS
84	A	70295	15896000	KUPARUK R NR DEADHORSE AK	701654	1485735	AK	040	STREAM	1971			6	6			GS
84	A	70296	15896700	PUTULIGAYUK R NR DEADHORSE AK	701608	1483711	AK	040	STREAM	1971			6	6			GS
84	A	70297	15910000	SAGAVANIRKTOK R NR SAGWON AK	690515	1484510	AK	250	STREAM	1971			6				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCONTINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN:		19															
TOTAL:		137															

HAWAII REGION 20

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
85	G	73344	16031000	WAIMEA R NR WAIMEA HI	215902	1593946	HI	007	STREAM	1971			5				GS
85	F	73378	16200000	NF KAUKONAHUA ST AB RB N WAHIAWA HI	213109	1575653	HI	003	STREAM	1968			7				GS
85	F	73379	16208000	SF KAUKONAHUA ST AT E PUMP N WA HI	212932	1575955	HI	003	STREAM	1968			7	7			GS
85	F	73380	16211600	MAKAHA ST NR MAKAHA HI	213016	1581059	HI	003	STREAM	1968			7				GS
85	F	73381	16211800	KAUPUNI ST A ALT 374F NR WAIANAE HI	212820	1580926	HI	003	STREAM	1970	1973		7	7			GS
85	F	73382	16212800	KIPAPA ST NR WAHIAWA HI	212815	1575750	HI	003	STREAM	1968			1				GS
85	F	56867	16213000	WAIKELE ST AT WAIPAHU HI	212311	1580049	HI	003	STREAM	1967			5	7			GS
85	F	73383	16216000	WAIAWA ST NR PEARL CITY HI	212355	1575850	HI	003	STREAM	1968			6	7			GS
85	F	75172	16223000	WAIMALU ST NR AIEA HI	212334	1575703	HI	003	STREAM	1968			7	7			GS
85	F	73354	16227500	MOANALUA ST NR KANEOHE HI	212329	1575105	HI	003	STREAM	1970			2				GS
85	F	73355	16227700	MOANALUA ST TR NR KANEOHE HI	212327	1575059	HI	003	STREAM	1969			8	8			GS
85	F	73357	16228200	MOANALUA ST NR AIEA HI	212237	1575303	HI	003	STREAM	1971			2	2			GS
85	F	56868	16229300	KALIHI ST AT KALIHI HI	212029	1575236	HI	003	STREAM	1967			5				GS
85	F	73386	16238500	WAIHI ST AT HONOLULU HI	211954	1574813	HI	003	STREAM	1969		*	7				GS
85	F	73390	16249000	WAIMANALO ST AT WAIMANALO HI	212112	1574352	HI	003	STREAM	1968			7				GS
85	F	56869	16260500	MAUNAWILI ST AT HWY 61 N KAILUA HI	212251	1574548	HI	003	STREAM	1967			2				GS
85	F	56870	16270500	KAMOOALII STREAM BL KUOU STREAM NR	212342	1574826	HI	003	STREAM	1967			6	2			GS
85	F	56871	16273900	KAMOOALII ST AT KANEOHE HI	212451	1574812	HI	003	STREAM	1967			2	2			GS
85	F	56872	16283500	KAHALUU ST AT KAHALUU HI	212723	1575015	HI	003	STREAM	1967	1973		7	7			GS
85	F	56874	16284500	WAIHEE ST AT KAHALUU HI	212731	1575026	HI	003	STREAM	1967	1973		7	7			GS
85	F	73397	16330000	KAMANANUI ST AT MAUNAWAI HI	213820	1580327	HI	003	STREAM	1968			7				GS
85	F	73398	16343000	HELEMANO ST AT HALEIWA HI	213440	1580612	HI	003	STREAM	1968			7				GS
85	F	73399	16345000	OPAEULA ST NR WAHIAWA HI	213355	1580010	HI	003	STREAM	1970			7				GS
85	E	73359	16400000	HALAWA ST NR HALAWA HI	210931	1564553	HI	009	STREAM	1969			5				GS
85	B	83965	16618000	KAHAKULOA ST NR HONOKOHAU HI	205854	1563326	HI	009	STREAM	1974			5				GS
85	A	73400	16704000	WAILUKU R AT PIIHONUA HI	194258	1550913	HI	001	STREAM	1971			5				GS
85	A	67716	16717000	HONOLII ST NR PAPAIKOU HI	194600	1550916	HI	001	STREAM	1969			5				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCON-TINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASINS:		20															
TOTAL:			27														

CARIBBEAN REGION 21

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD BEGAN	PERIOD OF RECORD DISCONTINUED	INTERRUPTED RECORD	SEDIMENT CONCENTRATION (SUSPENDED)	SEDIMENT PARTICLE SIZE (SUSPENDED)	SEDIMENT PARTICLE SIZE (BED MATERIAL)	SEDIMENT OTHER	AGENCY REPORTING
94		54356	50010500	R GUAJATACA AT LARES PR	181801	0665224	RQ		STREAM	1963			7				GS
94		54330	50013000	RIO CAMUY NR LARES PR	181749	0664931	RQ		STREAM	1963	1971		4	6			GS
94		54347	50015000	RIO CAMUY AT LA CUESTA PR	182500	0664917	RQ		STREAM	1963	1971		7				GS
94		54349	50016000	RIO CAMUY NR CAMUY PR	182825	0664950	RQ		STREAM	1969			7	7			GS
94		54350	50021000	RIO PELLEJAS AT CENTRAL PELLEJAS P	181207	0664216	RQ		STREAM	L963			7				GS
94		72978	50021050	RIO PELLEJAS BL CENTRAL PELLEJAS	181222	0664213	RQ		STREAM	1971			8				GS
94		67742	50021500	RIO PELLEJAS NR UTUADO PR	181353	0664256	RQ		STREAM	1969			3	3		3	GS
94		54351	50023000	RIO VIVI NR CENTRAL PELLEDAS PR	181253	0664025	RQ		STREAM	1963			3	3		3	GS
94		54352	50025000	RIO GRANDE DE ARECIBO NR UTUADO PR	181811	0664159	RQ		STREAM	1958			5	5			GS
94		72979	50026720	RIO LIMON NR HACIENDA ETUON PR	181736	0663654	RQ		STREAM	1971			8	8			GS
94		54346	50028000	RIO TANAMA NR UTUADO PR	181802	0664658	RQ		STREAM	1958			3	3		3	GS
94		67747	50028400	RIO TANAMA AT CHARCO HONDO PR	182452	0664252	RQ		STREAM	1969	1971		7				GS
94		67748	50029000	RIO GRANDE DE ARECIBO AT CENTRAL CA	182720	0664210	RQ		STREAM	1963		*	7	7		7	GS
94		56657	50031200	RIO GRANDE DE MANATI NR MOROVIS PR	181745	0662447	RQ		STREAM	1966			7	7		7	GS
94		67750	50034000	RIO BAUTA NR OROCOVIS PR	181410	0662718	RQ		STREAM	1958			4	4		4	GS
94		54327	50035000	RIO GRANDE DE MANATI AT CIALES PR	181926	0662736	RQ		STREAM	1959	1970		7				GS
94		54353	50038000	R GRANDE MANATI HWY 667 AT M PR	182526	0663105	RQ		STREAM	1963	1969		*				GS
94		67754	50038100	RIO GRANDE DE MANATI AT HIGHWAY 2 N	182552	0663137	RQ		STREAM	1969			7	7		7	GS
94		54354	50038500	RIO CIBUCO NR VEGA BAJA P R	182600	0662142	RQ		STREAM	1963	1969		*				GS
94		54355	50039000	RIO INDIO NR VEGABAJA PR	182619	0662213	RQ		STREAM	1963	1971		7				GS
94		54328	50043000	RIO DE LA PLATA AT PROYECTO LA PLAT	180937	0661344	RQ		STREAM	1958			*	*		*	GS
94		67760	50045700	RIO LAJAS AT TOA ALTA PR	182328	0661528	RQ		STREAM	1966			*	*		*	GS
94		54324	50045800	RIO LAJAS HWY 165 AT TOA ALTA P R	182339	0661516	RQ		STREAM	1963	1966		*				GS
94		54345	50046000	RIO DE LA PLATA AT TOA ALTA PR	182350	0661517	RQ		STREAM	1958			5	5		5	GS
94		54325	50047820	RIO BAYAMON AT HY174 NR BAYAMON PR	181810	0660827	RQ		STREAM	1964	1970		4	6			GS
94		54323	50047850	RIO DE BAYAMON NR BAYAMON PR	182008	0660813	RQ		STREAM	1964	1971		7				GS
94		75846	50048750	QUE LAS CURIAS TR NR RIO PIEDRAS PR	182019	0660333	RQ		STREAM	1972			5	5		5	GS
94		72981	50049100	RIO PIEDRAS AT HATO REY PR	182434	0660410	RQ		STREAM	1970			2	2		2	GS
94		54344	50055000	RIO GRANDE DE LOIZA AT CAGUAS PR	181435	0660035	RQ		STREAM	1959			7	7		7	GS
94		72982	50056000	RIO VALENCIANO NR LAS PIEDRAS P R	181037	0655421	RQ		STREAM	1971			2	2		2	GS
94		54343	50057000	RIO GURABO AT GURABO PR	181530	0655805	RQ		STREAM	1958			*	*		*	GS
94		56653	50063800	RIO ESPIRITU SANTO NR RIO GRANDE PR	182137	0654849	RQ		STREAM	1966			7	7		7	GS
94		54336	50066000	RIO MAMEYES AT MAMEYES P R	182230	0654550	RQ		STREAM	1963	1966		*				GS
94		54342	50071000	RIO FAJARDO NR FAJARDO PR	181756	0654142	RQ		STREAM	1960			*	*		*	GS
94		54329	50072000	RIO FAJARDO AT FAJARDO P R	181911	0653908	RQ		STREAM	1963	1966		*				GS
94		54337	50081000	RIO HUMACAO AT LAS PIEDRAS P R	181027	0655211	RQ		STREAM	1959			7				GS
94		75174	50091000	RIO MAUNABO AT MAUNABO PR	180024	0655419	RQ		STREAM	1959	1966		*	*		*	GS
94		67767	50092000	RIO GRANDE DE PATILLAS NR PATILLAS	180204	0660158	RQ		STREAM	1959			2	2		2	GS
94		54326	50111000	R TOA VACA A HY 150 NR VILLALBA P R	180639	0662743	RQ		STREAM	1963	1970		*				GS
94		67774	50114000	RIO CERRILLOS NR PONCE PR	180422	0663453	RQ		STREAM	1964			2	2		2	GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	SEDIMENT				AGENCY REPORTING
NUMBER	LETTER									BEGAN	DISCON-TINUED		CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	
94		72986	50114400	RIO BUCANA NR PONCE PR	180218	0663512	RQ		STREAM	1958			2	2		2	GS
94		54338	50115000	RIO PORTUGUES NR PONCE PR	180445	0663803	RQ		STREAM	1964			4	4		4	GS
94		54340	50121000	RIO TALLABOA AT PENUELAS PR	180302	0664319	RQ		STREAM	1958	1970		*	*		*	GS
94		54339	50124000	RIO GUAYANILLA NR GUAYANILLA P R	180252	0664807	RQ		STREAM	1960	1969		*				GS
94		54335	50138000	RIO GUANAJIBO NR HORMIGUEROS PR	180829	0670846	RQ		STREAM	1958			5	5		5	GS
94		67775	50140900	R YAHUECAS HWY 135 NR ADJUNTAS PR	181203	0664751	RQ		STREAM	1969	1971		7				GS
94		54334	50143000	RIO GRANDE DE ANASCO NR LARES PR	181528	0665505	RQ		STREAM	1959			*	*		*	GS
94		54341	50144000	RIO GRANDE DE ANASCO NR SAN SABASTI	181653	0670256	RQ		STREAM	1963			*	*		*	GS
94		54331	50145000	RIO GRANDE DE ANASCO AT EL ESPINO P	181650	0670647	RQ		STREAM	1963	1966		*				GS
94		54332	50148000	RIO CULEBRINAS NR MOCA P R	182237	0670705	RQ		STREAM	1963	1969		*				GS

MAP		OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
NUMBER	LETTER									BEGAN	DISCON-TINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
BASIN:		21															
TOTAL:			50														

TABLE 3. - Federal agencies reporting information on sediment data

	DEPARTMENT OF AGRICULTURE
FS	Forest Service
SCS	Soil Conservation Service
	DEPARTMENT OF THE ARMY
CE	Corps of Engineers
	DEPARTMENT OF THE INTERIOR
BR	Bureau of Reclamation
GS	Geological Survey
	DEPARTMENT OF THE NAVY
NFE	Naval Facilities Engineering Command
	INDEPENDENT AGENCIES
ERD	Energy Research and Development Administration
EPA	Environmental Protection Agency
IBW	International Boundary & Water Commission
TVA	Tennessee Valley Authority

TABLE 4. - Non-Federal agencies reporting information on sediment data

ARIZONA	
B01	Water Resources Research Center, University of Arizona
B03	Arizona Game & Fish Department
ARKANSAS	
B50	Arkansas State Department of Health
COLORADO	
C52	City of Colorado Springs, Department of Public Utilities
CONNECTICUT	
D00	State Department of Health
FLORIDA	
E21	Hillsborough County, Environmental Protection Commission
ILLINOIS	
G00	Illinois Department of Public Health, Division of Sanitary Engineering
IOWA	
H06	Agriculture Engineering Department, Iowa State University

MARYLAND
D52 City of Baltimore, Water Division

MINNESOTA
LII Minnesota Pollution Control
Agency

MISSOURI
M00 Missouri Division of Health, Bureau of Water Supply
M01 Kansas City Sanitary Sewer District
M02 University of Missouri at Rolla

NEBRASKA
N00 Nebraska Game & Parks Commission

NORTH CAROLINA
Q01 North Carolina Department of Water & Air Resources

NORTH DAKOTA
Q54 City of Dickinson Water Treatment Plant

OREGON
S00 School of Forestry, Oregon State University

TEXAS
V00 Texas Water Development Board

UTAH
V50 Utah State Health Department

WASHINGTON
X03 College of Fisheries, University of Washington
X05 Department of Zoology, University of Washington
X12 Municipality of Metropolitan Seattle

WEST VIRGINIA
X51 West Virginia Department of Health, Sanitary Engineering
. Division

WISCONSIN
Y00 Wisconsin Department of Natural Resources
Y02 Dairyland Power Cooperative

APPENDIX B

Agency addresses where additional information can be obtained:

DEPARTMENT OF AGRICULTURE

Agricultural Research Service
Administration Bldg., Room 104
Plant Industry Station
Beltsville, Maryland 20705

Forest Service
South Agriculture Bldg., Rm. 4210
Washington, D.C. 20250

Soil Conservation Service
Director, Engineering Division
South Agriculture Bldg., Rm. 5244
Washington, D.C. 20250

DEPARTMENT OF THE ARMY

Corps of Engineers
Forrestal Bldg., DAEN-CWE-Y
Washington, D.C. 20314

Coastal Engineering Research Center
U.S. Army Engineers
Kingman Building
Fort Belvoir, Virginia 22060

Waterways Experiment Station
U.S. Army Engineers
P.O. Box 631
Vicksburg, Mississippi 39180

WATER RESOURCES COUNCIL

2120 L Street, N.W.
Washington, D.C. 20037

DEPARTMENT OF THE INTERIOR

Bureau of Reclamation
Sedimentation Section
E&R Center
Denver Federal Center, Bldg. 67

Geological Survey
Chief, Quality Water Branch
Water Resources Division
National Center, Mail Stop 415
Reston, Virginia 22092

TENNESSEE VALLEY AUTHORITY

Hydraulic Data Branch
350 Evans Building
Knoxville, Tennessee 37902

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration
Office of Research & Development
Trans Point Building
Washington, D.C. 20590

ENVIRONMENTAL PROTECTION AGENCY

Office of Water Planning & Standards
Waterside Mall
Washington, D.C. 20460

FEDERAL INTER-AGENCY SEDIMENTATION PROJECT

St. Anthony Falls Hydraulic Laboratory
Hennepin Island & Third Avenue, S.E.
Minneapolis, Minnesota 55414

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